Technology/21st Century Life and Careers Curriculum

Kindergarten through 5th Grade

Created August 1, 2015
Board of Education Approved October, 2015

Introduction and Philosophy

In today's global economy, students need to be lifelong learners who have the knowledge and skills to adapt to an evolving workplace and world. To address these demands, Standard 9, 21st Century Life and Careers, which includes the 12 Career Ready Practices, establishes clear guidelines for what students need to know and be able to do in order to be successful in their future careers and to achieve financial independence.

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

Vision: To integrate 21st Century life and career skills across the K-12 curriculum and in Career and Technical Education (CTE) programs to foster a population that:

- Continually self-reflects and seeks to improve the essential life and career practices that lead to success.
- Uses effective communication and collaboration skills and resources to interact with a global society.
- Is financially literate and financially responsible at home and in the broader community.
- Is knowledgeable about careers and can plan, execute, and alter career goals in response to changing societal and economic conditions.
- Seeks to attain skill and content mastery to achieve success in a chosen career path.

The Standards: Standard 9 is composed of the Career Ready Practices and Standard 9.1, 9.2, and 9.3 which are outlined below:

- **The 12 Career Ready Practices**
  These practices outline the skills that all individuals need to have to truly be adaptable, reflective, and proactive in life and careers. These are researched practices that are essential to career readiness.
- **9.1 Personal Financial Literacy**
  This standard outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.
- **9.2 Career Awareness, Exploration, and Preparation**
  This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.
- **9.3 Career and Technical Education**
  This standard outlines what students should know and be able to do upon completion of a CTE Program of Study.

For students to be college and career ready they must have opportunities to understand career concepts and financial literacy. This includes helping students make informed decisions about

their future personal, educational, work, and financial goals. By integrating Standard 9 into

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instruction, New Jersey students will acquire the necessary academic and life skills to not only achieve individual success but also to contribute to the success of our society.

References

Achieve. (2012). *Understanding the Skills in the Common Core State Standards.* Retrieved from www.acheive.org: http://www.achieve.org/files/Understanding-Skills-CCSS.pdf Association, A. S. (2004). ASCA National Standards for Students (Competencies and Indicators). Alexandria, VA.

Career Readiness Partner Council. (2014). *What it Means to be Career Ready?* Retrieved from www.careerreadynow.org: http://www.careerreadynow.org/docs/CRPC_4pager.pdf

CTE. (2014, June). *The Common Career Technical Core*. Retrieved 2014

Folkers, D. R. (2011, October). Setting a New Standard with a Common Career Technical Core.*Techniques*.

Partnership for 21st Century Skills. (2014, June 9). Retrieved 2014

Career Ready Practices

CRP1. Act as a responsible and contributing citizen and employee.
CRP2. Apply appropriate academic and technical skills.
CRP3. Attend to personal health and financial well-being.
CRP4. Communicate clearly and effectively and with reason.
CRP5. Consider the environmental, social and economic impacts of decisions.
CRP6. Demonstrate creativity and innovation.
CRP7. Employ valid and reliable research strategies.
CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
CRP9. Model integrity, ethical leadership and effective management.
CRP10. Plan education and career paths aligned to personal goals.
CRP11. Use technology to enhance productivity.
CRP12. Work productively in teams while using cultural global competence.

Intent and Spirit of the Technology Standards

All students acquire content area knowledge and skills in: (1) Visual and Performing Arts, (2) Comprehensive Health and Physical Education, (3) Language Arts Literacy, (4) Mathematics, (5) Science, (6) Social Studies, (7) World Languages, (8) Educational Technology, Technology Education, Engineering, and Design, and (9) 21st Century Life and Careers. As they do so, they are supported by the ongoing, transparent, and systematic integration of technology from preschool to grade 12 in preparation for postsecondary education and the workplace.

In Preschool, technology offers versatile learning tools that can support children's development in all domains. For example, electronic storybooks can "read" stories to children in multiple languages; adventure games foster problem-solving skills; story-making programs encourage literacy and creativity; math-related games can help children count and classify; and science

activities promote inquiry and an understanding of the world through the eyes of a child. When

preschoolers are encouraged to work together with electronic devices and computers, social skills are tapped as children negotiate turn-taking. However, technology should not replace the concrete, real-life experiences that are critical to a young child's learning; it must always be used in balance with other meaningful activities and routines. Technology should be embedded into children's learning centers and should enhance their learning and development during choice time as well as in small-group experiences.

In grades K-2, students are formally introduced to the basic features and functions of computers and demonstrate understanding that technology enables them to communicate beyond the classroom on a variety of topics. K-2 students are also exposed to elements of the design process, design systems, and a variety of technology resources, and understand the importance of safety when using technological tools.

In grades 3-4, students understand the purpose of, and are able to use, various computer applications. They continue to develop information-literacy skills and increasingly use technology to communicate with others in support of learning, while also recognizing the need for cyber safety and acceptable use policies. Students in grades 3-4 also investigate the impact of technology systems, understand the design process, and use it for problem solving.

In grades 5-8, students expand their capacity to use operations and applications, apply information-literacy skills, and select the appropriate tools and resources to accomplish a variety of tasks, as they develop digital citizenship. As students participate in online learning communities, collaborating in the design of products that address local and global issues across the curriculum, they build understanding of the perspectives of learners from other countries. Students at this level can apply the design process in the development of products; understand impact constraints, trade-offs, and resource selection; and solve a design challenge and/or build a prototype using the design process. Students can explain why human-designed systems, products, and environments need to be monitored, maintained, and improved, and they recognize the interdependence of subsystems as parts of a system.

Revised Standards from October 2014

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.

National, International, and State Advocacy

The Partnership for 21st Century Skills, ISTE, and the American Association of School Libraries (AASL) provide leadership and service to improve teaching and learning by advancing the effective use of technology in education. The ITEA promotes technological literacy by supporting the teaching of technology. The Consortium for School Networking (CoSN) is an organization for K-12 technology leaders who use technology strategically to improve learning.

At the state level, the New Jersey Technology Education Association (NJTEA) fosters the development of technological literacy through Technology Education Programs. The New Jersey Association for Educational Technology(NJAET)and the New Jersey Educational Computing Cooperative (NJECC), Inc., promote and support the integration of technology in education as it applies to student learning, professional development, and instructional planning.

Resources

American Association of School Librarians. (2007). Standards for the 21st century learner. Online: http://www.aasl.org

International Society for Technology in Education. (2002). National educational technology standards for administrators. Online: http://www.iste.org/Content/NavigationMenu/NETS/ForAdministrators/2009Standards/NETS_for_Administrators_2009.htm

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International Technology Education Association. (2003). Advancing excellence in technological literacy: Student assessment, professional development, and program standards. Online: http://www.iteaconnect.org/TAA/PDFs/AETL.pdf

International Technology Education Association. (2007). Standards for technological literacy. Online: http://www.iteaconnect.org/TAA/PDFs/xstnd.pdf

Partnership for 21st Century Skills. (2005). Framework for 21st century learning. Online: http://www.21stcenturyskills.org

*International Technology Education Association NETS•S Implementation Wiki http://netsimplementation.iste.wikispaces.net/

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Curriculum Design	
Content Area: Technology	
Course Title: Educational Technology	**Grade Level: PreK-2**
Technology Operations and Concepts	**Ongoing**
Creativity and Innovation	**Ongoing**
Communication and Collaboration	**Ongoing**
Digital Citizenship	**Ongoing**
Research and Information Fluency	**Ongoing**
Critical Thinking, Problem Solving, & Decision-Making	**Ongoing**

Curriculum Design

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Content Area: Technology	
Course Title: Technology Education, Engineering, & Design	**Grade Level: PreK-2**

Nature of Technology: Creativity and Innovation	
Design	**By the end of grade 2**
Technology & Society	**By the end of grade 2**
Abilities for a Technological World	**By the end of grade 2**
Computational Thinking: Programming	**By the end of grade 2**

Unit Overview: Technology Operations and Concepts
Content Area: Technology
Unit Title: Technology Operations and Concepts
Target Course/Grade Level: PreK-2nd

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Unit Summary

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

Primary interdisciplinary connections:

All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.

21st century themes:

9.2 Career Awareness, Exploration and Preparation

Students will explore the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements

9.3 Career and Technical Education

Arts, A/V Technology, & Communications Career Cluster

All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

9.3 Career and Technical Education

Information Technology Career Cluster

All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

Unit Rationale:

The use of technology and digital tools requires knowledge and appropriate use of operations and related applications**.**

Learning Targets

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Standards:

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.

A. Technology Operations and Concepts: *Students demonstrate a sound understanding of technology concepts, systems and operations.*

Content Statements:

Understand and use technology systems.

Select and use applications effectively and productively.

CPI #	Cumulative Progress Indicator (CPI)
8.1.P.A.1	Use an input device to select an item and navigate the screen
8.1.2.A.1	Identify the basic features of a digital device and explain its purpose.
8.1.P.A.2	Navigate the basic functions of a browser.
8.1.2.A.2	Create a document using a word processing application.
8.1.P.A.3	Use digital devices to create stories with pictures, numbers, letters and words.
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.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).
8.1.2.A.4	Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).
8.1.P.A.5	Demonstrate the ability to access and use resources on a computing device.
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.

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Unit Essential Questions	**Unit Enduring Understandings**
In a world of constant change, what skills should we learn? How do I choose which technological tools to use and when it is appropriate to use them? How can I transfer what I know to new technological situations/experiences	Technology is constantly changing and requires continuous learning of new skills. Selection of technology should be based on personal and /or career needs assessment. A tool is only as good as the person using it.

Unit Learning Targets

Students will ...

- Use an input device to select an item and navigate the screen • Navigate the basic functions of a browser.
- Use digital devices to create stories with pictures, numbers, letters and words.
- Use basic technology terms in the proper context in conversation with peers and teachers (e.g., camera, tablet, Internet, mouse, keyboard, and printer).
- Demonstrate the ability to access and use resources on a computing device.
- Identify the basic features of a digital device and explain its purpose.
- Create a document using a word processing application.
- Compare the common uses of at least two different digital applications and identify the advantages and disadvantages of using each.
- Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).
- Enter information into a spreadsheet and sort the information.
- Identify the structure and components of a database.
- Enter information into a database or spreadsheet and filter the information.

Evidence of Learning

Summative Assessment- a computer assessment will be administered by the end of grade 4.

Equipment needed: Computers with internet accessibility

Teacher Resources:
Moodle Lessons for each Grade Level

Educational websites
Pixie
Stationary Studio

http://www.state.nj.us/education/cccs/2014/tech/
www.prometheanplanet.com

Formative Assessments

- Rubrics
- Checklist
- Projects
- Performance tasks
- Self-evaluation
- Surveys

Themes	
Theme	**Timeframe**
Technology Operations and Concepts	Ongoing
Collecting Information on Spreadsheets	Ongoing

Teacher Notes:

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Curriculum Development Resources
Click the links below to access additional resources used to design this unit:
http://www.state.nj.us/education/cccs/2014/tech/
www.nutleyschools.org/sites/default/files/2840/K6TechCurric.pdf

Instructional Design												
Content Area: Technology												
Unit Title: Technology Operations and Concepts								**Timeframe:** Ongoing				
Theme Components												
21st Century Themes												
X	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy	X	Environmental Literacy			
21st Century Skills												
X	Creativity and Innovation	X	Critical Thinking and Problem Solving	x	Communication	x	Collaboration					
Interdisciplinary Connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.												
Integration of Technology: All students will have access to a computer with wireless capabilities during this time.												
Equipment needed: Computers with Internet access												
Goals/Objectives			**Learning Activities/Instructional Strategies**						**Formative Assessment Tasks**			

Students: • Use the mouse to negotiate a simple menu on the screen (e.g., to print a picture). • Use electronic devices (e.g., computer) to type name and to create stories with pictures and letters/words. • Identify the "power keys" (e.g., ENTER, spacebar) on a keyboard. • Recognize that the number keys are in a	**Suggested Lesson Sequence** • Computer Basics: monitor, mouse, keyboard, printer, CD drive • Intro to keyboard: assign for practice A-Z • Teach Vocabulary: space bar, Enter/Return, Shift, monitor, keyboard, mouse, internet, print, double-click, delete, & save • Identify Software/Browser Applications- Pixie, KidPix, Firefox, Safari. Identify which software is used for specific purposes. • Word Processing Basics- create a document. • Mouse Basics- Use various programs and websites to navigate	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

row on the top of the keyboard. • Use basic technology terms in conversations (e.g., digital camera, battery, screen, computer, Internet, mouse, keyboards, and printer). • Turn smart toys on and off. • Identify the basic features of a computer and explain how to use them effectively. • Use technology terms in daily practice. • Discuss the common uses of computer applications and hardware and identify their advantages and disadvantages. • Create a document with text using a word processing program. • Demonstrate the ability to navigate in virtual environments that area developmentally appropriate.	in virtual environments • Introduce shortcuts for saving and printing • Enhance writing pieces by using different font styles, sizes and colors. • **See lessons in Moodle for grades K, 1 and 2.**	

Differentiation:

- All lessons will be modeled through the use of an interactive board
- Keyboards will be marked with specific colors on various keys.
- Screens can be magnified if necessary.
- Students will be able to work in cooperative learning groups.
- Posters will be displayed as a visual to assist students when completing the computer basics.

Resources Provided

http://www.state.nj.us/education/cccs/2014/tech/
www.nutleyschools.org/sites/default/files/2840/K6TechCurric.pdf

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Instructional Design												
Content Area: Technology												
Unit Title: Collecting Information on Spreadsheets									**Timeframe:** Ongoing			
Lesson Components												
21st Century Themes												
X	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy	X	Environmental Literacy			
21st Century Skills												
X	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication	X	Collaboration					
Interdisciplinary Connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.												
Integration of Technology: All students will have access to a computer with wireless capabilities during this time.												
Equipment needed: Computers with Internet access												

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks
Students: • Collect and post the results of a digital classroom survey about a problem or issue and use data to suggest solutions.	**Suggested Lesson Sequence** Students collect information about products and systems used at home (electric toothbrush, tv, toaster) Teacher models inputting information in a graph. Students create a pictograph with Graph Club or Pixie	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

Differentiation

- All lessons will be modeled through the use of an interactive board
- Keyboards will be marked with specific colors on various keys.
- Screens can be magnified if necessary.
- Students will be able to work in cooperative learning groups.
- Posters will be displayed as a visual to assist students when completing the computer basics.

Resources Provided

- Graph Club
- Pixie

LESSON REFLECTION

Reflect on the lesson you have developed and rate the degree to which the lesson ***Strongly, Moderately*** or ***Weakly*** meets the criteria below.

Lesson Activities:	**Strongly**	**Moderately**	**Weakly**
Are challenging and require higher order thinking and problem solving skills			
Allow for student choice			
Provide scaffolding for acquiring targeted knowledge/skills			
Integrate global perspectives			
Integrate 21st century skills			
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills			

Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills			
Are varied to address different student learning styles and preferences			
Are differentiated based on student needs			
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process			
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives			
Provide opportunities for student reflection and selfassessment			
Provide data to inform and adjust instruction to better meet the varying needs of learners			

Unit Overview: Creativity and Innovation
Content Area: Technology
Unit Title: Creativity and Innovation
Target Course/Grade Level: PreK-2nd
Unit Summary Educational Technology- All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology. **Primary interdisciplinary connections:** All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health. **21st century themes:** 9.2 Career Awareness, Exploration and Preparation Students will explore the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements 9.3 Career and Technical Education Arts, A/V Technology, & Communications Career Cluster All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.) 9.3 Career and Technical Education Information Technology Career Cluster All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

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Unit Rationale:

The use of digital tools and media-rich resources enhances creativity and the construction of knowledge.

Learning Targets

Standards

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.

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

Content Statements:

Apply existing knowledge to generate new ideas, products, or processes. Create original works as a means of personal or group expression.

CPI #	Cumulative Progress Indicator (CPI)
8.1.P.B.1	Create a story about a picture taken by the student on a digital camera or mobile device.
8.1.2.B.1	Illustrate and communicate original ideas and stories using multiple digital tools and resources.

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

Unit Learning Targets

Students will ...

- Use a digital camera to take a picture.
- Create original graphics with digital tools.
- Manipulate digital images from files and digital cameras
- Record audio narrations to be embedded in illustrations
- Illustrate and communicate original ideas and stories using digital tools and media-rich resources.

Evidence of Learning

Summative Assessment-
• Cumulative projects created at the end of the year.
• Computer assessment will be administered by the end of grade 4.

Equipment needed: Computers with internet accessibility

Teacher Resources:
NETS•S Implementation Wiki – Grade K-2
Moodle Lessons for each Grade Level
Educational websites
Pixie

Stationary Studio
Graph Club Kidspiration
www.state.nj.us/education/cccs/2014/tech/ **www.prometheanplanet.com**

Formative Assessments
- Rubrics
- Checklist
- Projects
- Performance tasks
- Self-evaluation
- Surveys

Themes	
Theme	**Timeframe**
Creativity & Innovation	Ongoing

Teacher Notes:

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Curriculum Development Resources
Click the links below to access additional resources used to design this unit:
www.state.nj.us/education/cccs/2014/tech/
NETS•S Implementation Wiki – Grade K-2
Moodle Lessons for each Grade Level

Instructional Design									
Content Area: Technology									
Unit Title: Creativity and Innovation						**Timeframe:** Ongoing			
Lesson Components									
21st Century Themes									
X	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy	x	Environmental Literacy
21st Century Skills									
X	Creativity and Innovation	x	Critical Thinking and Problem Solving	x	Communication	X	Collaboration		
Interdisciplinary Connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.									
Integration of Technology: All students will have access to a computer with wireless capabilities during this time.									
Equipment needed: Computers with Internet access									

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks

Students: • Use a digital camera to take a picture. • Illustrate and communicate original ideas and stories using digital tools and media-rich resources.	**Suggested Lesson Sequence** • Create a digital scrapbook about family members. Include information about how each family member contributes to the family unit and talk about anything that makes the person special. Images can be hand drawn and scanned or digital pictures may be used. • Create a short video about a favorite activity. • See activities in Moodle (Let's Create Some Graphics)	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

Differentiation

- All lessons will be modeled through the use of an interactive board
- Keyboards will be marked with specific colors on various keys.
- Screens can be magnified if necessary.
- Students will be able to work in cooperative learning groups.
- Posters will be displayed as a visual to assist students when completing the computer basics.

Resources Provided

- Pics4Learning provides copyright-friendly images for student and teacher use.
- Pixie
- Digital cameras

- Computer on-board cameras
- Computer on-board Microphone

LESSON REFLECTION

Reflect on the lesson you have developed and rate the degree to which the lesson ***Strongly, Moderately*** or ***Weakly*** meets the criteria below.

Lesson Activities:	**Strongly**	**Moderately**	**Weakly**

Are challenging and require higher order thinking and problem solving skills			
Allow for student choice			
Provide scaffolding for acquiring targeted knowledge/skills			
Integrate global perspectives			
Integrate 21st century skills			
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills			
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills			
Are varied to address different student learning styles and preferences			
Are differentiated based on student needs			
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process			
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives			
Provide opportunities for student reflection and selfassessment			
Provide data to inform and adjust instruction to better meet the varying needs of learners			

Unit Overview: Communication & Collaboration
Content Area: Technology
Unit Title: Communication and Collaboration
Target Course/Grade Level: PreK-2nd

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Unit Summary

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

Primary interdisciplinary connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.

21st century themes:

9.2 Career Awareness, Exploration and Preparation

Students will explore the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.

9.3 Career and Technical Education

Arts, A/V Technology, & Communications Career Cluster

All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

9.3 Career and Technical Education

Information Technology Career Cluster

All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

Unit Rationale

Digital tools and environments support the learning process and foster collaboration in solving local or global issues and problems

Learning Targets

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Standards

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.

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.*

Content Statements:

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.

CPI #	Cumulative Progress Indicator (CPI)
8.1.P.C.1	Collaborate with peers by participating in interactive digital games or activities.
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.

Unit Essential Questions	**Unit Enduring Understandings**
How has the use of digital tools improved opportunities for communication and collaboration?	Digital tools allow for communication and collaboration anytime/anyplace worldwide.

Unit Learning Targets

Students will ...

- Operate frequently used, high-quality, interactive games or activities in either screen or toybased formats.
- Access materials on a disk, cassette tape, or DVD. Insert a disk, cassette tape, CD-Rom, DVD, or other storage device and press "play" and "stop."
- Engage in a variety of developmentally appropriate learning activities with students in other classes, schools, or countries using electronic tools.

Evidence of Learning

Summative Assessment- a computer assessment will be administered by the end of grade 4.

Equipment needed: Computers with internet accessibility

Teacher Resources:

NETS•S Implementation Wiki – Grade K-2
Moodle Lessons for each Grade Level

Educational websites
Pixie
Stationary Studio
Larson's Math
Graph Club
Carnival Countdown
Neighborhood Map Machine Kidspiration
www.state.nj.us/education/cccs/2014/tech/
www.prometheanplanet.com

Formative Assessments

- Rubrics
- Checklist
- Projects
- Performance tasks
- Self-evaluation
- Surveys

Themes	
Theme	**Timeframe**
Communication and Collaboration	Ongoing

Teacher Notes:

Saddle River Public Schools
Technology/21st Century Life and Careers
Saddle River, NJ

Curriculum Development Resources
Click the links below to access additional resources used to design this unit:
www.state.nj.us/education/cccs/2014/tech/
Moodle Lessons for each Grade Level

Instructional Design									
Content Area: Technology									
Unit Title: Communication and Collaboration						**Timeframe:** Ongoing			
Lesson Components									
21st Century Themes									
X	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy	X	Environmental Literacy
21st Century Skills									
X	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication	X	Collaboration		
Interdisciplinary Connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.									
Integration of Technology: All students will have access to a computer with wireless capabilities during this time (class blog, Wiki, or Skype).									
Equipment needed: Computer with Internet access									
Goals/Objectives			**Learning Activities/Instructional Strategies**				**Formative Assessment Tasks**		

Students: • Operate frequently used, high-quality, interactive games or activities in either screen or toy-based formats. • Access materials on a disk, cassette tape, or DVD. Insert a disk, cassette tape, CDRom, DVD, or other storage device and press "play" and "stop." • Engage in a variety of developmentally	**Suggested Lesson Sequence** • Compare information about plants, animals and non-living objects found in the schoolyard with other students from around the country and the world. Information about the Square of Life project can be found at: http://www.k12science.org/curriculum/squareproj/index.htm. · Participate in a project that combines artwork with the development of reading and writing skills. Information about Create A Monster project can be found at: http://www.monsterexchange.org/.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys
appropriate learning activities with students in other classes, schools, or countries using electronic tools.	• Create and interpret graphs, use descriptive text, develop mapping skills and collaborate internationally using the Internet while tallying lost teeth. Information about The Tooth Tally Project can be found at: http://toothtally.com/default.htm. • Using Graph Club, students create a pic animals. The information is placed on a	

Differentiation

- All lessons will be modeled through the use of an interactive board
- Keyboards will be marked with specific colors on various keys.
- Screens can be magnified if necessary.
- Students will be able to work in cooperative learning groups.
- Posters will be displayed as a visual to assist students when completing the computer basics.

Resources Provided

- Students and teachers can create free websites, participate in global projects or communicate with students from around the world using Thinkquest.
- The Center for Innovation in Engineering and Science Education (CIESE) has designed interdisciplinary projects that utilize real time data for teachers and students worldwide.
- Here Birdy, Birdy Project is an example of a collaborative project in which students from five North American schools gathered data about birds over time and analyzed trends.
- Global SchoolNet is the Internet's oldest (1995) and largest clearinghouse for teacherconducted global learning projects.
- A list of teachers who teach at International Schools
- **NETS•S Implementation Wiki – Grade K-2**
- **Moodle Lessons for each Grade Level**

LESSON REFLECTION

Reflect on the lesson you have developed and rate the degree to which the lesson ***Strongly, Moderately*** or ***Weakly*** meets the criteria below.

Lesson Activities:	**Strongly**	**Moderately**	**Weakly**
Are challenging and require higher order thinking and problem solving skills			
Allow for student choice			
Provide scaffolding for acquiring targeted knowledge/skills			
Integrate global perspectives			

Integrate 21st century skills			
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills			
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills			
Are varied to address different student learning styles and preferences			
Are differentiated based on student needs			
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process			
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives			
Provide opportunities for student reflection and selfassessment			
Provide data to inform and adjust instruction to better meet the varying needs of learners			

Unit Overview: Digital Citizenship
Content Area: Technology
Unit Title: Digital Citizenship
Target Course/Grade Level: PreK-2nd

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Summary

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

Primary interdisciplinary connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.

21st century themes:

9.2 Career Awareness, Exploration and Preparation

Students will explore the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements

9.3 Career and Technical Education

Arts, A/V Technology, & Communications Career Cluster

All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

9.3 Career and Technical Education

Information Technology Career Cluster

All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

Unit Rationale

Technological advancements create societal concerns regarding the practice of safe, legal, and ethical behaviors.

Learning Targets

Standards

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.

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

Content Statements:

Advocate and practice safe, legal, and responsible use of information and technology. Demonstrate personal responsibility for lifelong learning. Exhibit leadership for digital citizenship.

CPI #	Cumulative Progress Indicator (CPI)
8.1.2.D.1	Develop an understanding of ownership of print and non-print information.
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.
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.
8.1.5.D.4	Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.

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

Unit Learning Targets

Students will ...

- Develop an understanding of ownership of print and non-print information.
- Understand the need for and use of copyrights.
- 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.

Evidence of Learning

Summative Assessment- a computer assessment will be administered by the end of grade 4.

Equipment needed: Computers with internet accessibility

Teacher Resources:
NETS•S Implementation Wiki – Grade K-2
Moodle Lessons for each Grade Level

Educational websites
Pixie
Stationary Studio Kidspiration
www.state.nj.us/education/cccs/2014/tech/
www.prometheanplanet.com

Formative Assessments

- Rubrics
- Checklist
- Projects
- Performance tasks
- Self-evaluation
- Surveys

Themes	
Theme	**Timeframe**
Digital Citizenship	Ongoing

Teacher Notes:

Curriculum Development Resources
Click the links below to access additional resources used to design this unit:
www.state.nj.us/education/cccs/2014/tech/

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Instructional Design												
Content Area: Technology												
Unit Title: Digital Citizenship									**Timeframe:** Ongoing			
Lesson Components												
21st Century Themes												
X	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy	X	Environmental Literacy			
21st Century Skills												
X	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication			X	Collaboration			
Interdisciplinary Connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.												
Integration of Technology: All students will have access to a computer with wireless capabilities during this time (Graphic Websites).												
Equipment needed: Computers with Internet access												
Goals/Objectives			**Learning Activities/Instructional Strategies**						**Formative Assessment Tasks**			

Students: • Model legal and ethical behaviors when using both print and non-print information by citing resources. • Explain the need for each individual, as a member of the global community, to practice cyber safety, cyber security, and cyber ethics when using existing and emerging technologies. • Analyze the need for	**Suggested Lesson Sequence** • Recognize ownership of work by identifying the title, author or source of a book, article, song or poem provided by their teacher. This does not require the use of APA or MLA styles. • The teacher models – Cite the specific website beneath a picture that is used for a project/lesson. Community Helpers- teacher copies and pastes credit where credit is due. Print graphic with cit **Moodle Lessons for each Grade Level**	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys a a
and use of copyrights. • Explain the purpose of an acceptable use policy and the consequences of inappropriate use of technology.		

Differentiation

- All lessons will be modeled through the use of an interactive board
- Keyboards will be marked with specific colors on various keys.
- Screens can be magnified if necessary.
- Students will be able to work in cooperative learning groups.
- Posters will be displayed as a visual to assist students when completing the computer basics.

Resources Provided

- www.enchantedlearning.com
- Educational Websites
- **NETS•S Implementation Wiki – Grade K-2**
- **Moodle Lessons for each Grade Level**

LESSON REFLECTION

Reflect on the lesson you have developed and rate the degree to which the lesson ***Strongly, Moderately*** or ***Weakly*** meets the criteria below.

Lesson Activities:	**Strongly**	**Moderately**	**Weakly**
Are challenging and require higher order thinking and problem solving skills			
Allow for student choice			
Provide scaffolding for acquiring targeted knowledge/skills			
Integrate global perspectives			
Integrate 21st century skills			
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills			
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills			
Are varied to address different student learning styles and preferences			
Are differentiated based on student needs			
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process			

Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives			
Provide opportunities for student reflection and selfassessment			
Provide data to inform and adjust instruction to better meet the varying needs of learners			

Unit Overview : Research & Information Literacy
Content Area: Technology
Unit Title: Research and Information Literacy
Target Course/Grade Level: PreK-2nd

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Summary

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

Primary interdisciplinary connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.

21st century themes:

9.2 Career Awareness, Exploration and Preparation Students will explore the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.

9.3 Career and Technical Education
Arts, A/V Technology, & Communications Career Cluster
All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

9.3 Career and Technical Education
Information Technology Career Cluster
All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

Unit Rationale

Effective use of digital tools assists in gathering and managing information.

Learning Targets

Standards

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.

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

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Content Statements:

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.

CPI #	Cumulative Progress Indicator (CPI)
8.1.P.E.1	Use the Internet to explore and investigate questions with a teacher's support.
8.1.2.E.1	Use digital tools and online resources to explore a problem or issue.

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

Unit Learning Targets

Students will ...

- Use the Internet to explore and investigate questions with a teacher's support.
- Use digital tools and online resources to explore a problem or issue effecting children, and discuss possible solutions.

Evidence of Learning

Summative Assessment- a computer assessment will be administered by the end of grade 4.

Equipment needed: Computers with internet accessibility

Teacher Resources:

NETS•S Implementation Wiki – Grade K-2

Moodle Lessons for each Grade Level

Educational websites

Pixie

Stationary Studio

Kidspiration

www.state.nj.us/education/cccs/2014/tech/

www.prometheanplanet.com

Formative Assessments

- Rubrics
- Checklist
- Projects
- Performance tasks
- Self-evaluation
- Surveys

Theme	
Theme	**Timeframe**
Research and Information Literacy	Ongoing
Teacher Notes:	

Curriculum Development Resources
Click the links below to access additional resources used to design this unit:
www.state.nj.us/education/cccs/2014/tech/
NETS•S Implementation Wiki – Grade K-2
Moodle Lessons for each Grade Level

Instructional Design									
Content Area: Technology									
Unit Title: Research and Information Literacy						**Timeframe:** Ongoing			
Lesson Components									
21st Century Themes									
X	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy	X	Environmental Literacy
21st Century Skills									
X	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication	X	Collaboration		

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Interdisciplinary Connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.

Integration of Technology: All students will have access to a computer with wireless capabilities during this time.

Equipment needed: Computers with Internet access

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks
Students: • Use the Internet to explore and investigate questions with a teacher's support. • Use digital tools and online resources to explore a problem or issue affecting children, and discuss possible solutions.	**Suggested Lesson Sequence** • Explore various types of tool and the • Use websites that provide age appro facts about an issue that relates to ch **Moodle Lessons for each Grade Level**	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

Differentiation

- All lessons will be modeled through the use of an interactive board
- Keyboards will be marked with specific colors on various keys.
- Screens can be magnified if necessary.
- Students will be able to work in cooperative learning groups.
- Posters will be displayed as a visual to assist students when completing the computer basics.

Resources Provided

- www.enchantedlearning.com
- educational websites
- Weekly Readers
- English Language Arts reading materials
- **NETS•S Implementation Wiki – Grade K-2**
- **Moodle Lessons for each Grade Level**

LESSON REFLECTION

Reflect on the lesson you have developed and rate the degree to which the lesson ***Strongly, Moderately*** or ***Weakly*** meets the criteria below.

Lesson Activities:	Strongly	Moderately	Weakly
Are challenging and require higher order thinking and problem solving skills			
Allow for student choice			
Provide scaffolding for acquiring targeted knowledge/skills			
Integrate global perspectives			
Integrate 21st century skills			
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills			
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills			
Are varied to address different student learning styles and preferences			
Are differentiated based on student needs			

Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process			
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives			
Provide opportunities for student reflection and selfassessment			
Provide data to inform and adjust instruction to better meet the varying needs of learners			

Unit Overview : Critical Thinking, Problem Solving, & Decision-Making
Content Area: Technology
Unit Title: Critical Thinking, Problem Solving, & Decision-Making
Target Course/Grade Level: PreK-2nd

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Summary

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

Primary interdisciplinary connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.

21st century themes:

9.2 Career Awareness, Exploration and Preparation Students will explore the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.

9.3 Career and Technical Education

Arts, A/V Technology, & Communications Career Cluster

All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

9.3 Career and Technical Education

Information Technology Career Cluster

All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

Unit Rationale

Information accessed through the use of digital tools assists in generating solutions and making decisions.

Learning Targets

Standards

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.

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.*

Content Statements

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.

CPI #	Cumulative Progress Indicator (CPI)
8.1.2.F.1	Use geographic mapping tools to plan and solve problems.

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

Unit Learning Targets

Students will ...

- Navigate the basic functions of a browser, including how to open or close windows and use the "back" key.
- Use mapping tools to plan and choose alternate routes to and from various locations.
- Use mapping software to create a replica of your town, identifying types of services that are available.

Evidence of Learning

Summative Assessment- a computer assessment will be administered by the end of grade 4.

Equipment needed: Computers with internet accessibility

Teacher Resources:
www.state.nj.us/education/cccs/2014/tech/
www.prometheanplanet.com
Educational websites
Pixie
Stationary Studio
Neighborhood Map Machine
Kidspiration

NETS•S Implementation Wiki – Grade K-2
Moodle Lessons for each Grade Level

Formative Assessments

- Rubrics
- Checklist
- Projects
- Performance tasks
- Self-evaluation
- Surveys

Themes	
Theme	**Timeframe**
Critical Thinking, Problem Solving, and Decision-Making	Ongoing

Teacher Notes:

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Curriculum Development Resources

Click the links below to access additional resources used to design this unit:

www.state.nj.us/education/cccs/2014/tech/

NETS•S Implementation Wiki – Grade K-2

Moodle Lessons for each Grade Level

Instructional Design							
Content Area: Technology							
Unit Title: Critical Thinking, Problem Solving, and DecisionMaking						**Timeframe:** Ongoing	
Lesson Components							
21st Century Themes							
X	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy
X	Environmental Literacy						
21st Century Skills							
X	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication	X	Collaboration
Interdisciplinary Connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.							
Integration of Technology: All students will have access to a computer with wireless capabilities during this time.							
Equipment needed: Computers with Internet Access							
Goals/Objectives		**Learning Activities/Instructional Strategies**				**Formative Assessment Tasks**	

Students: • Navigate the basic functions of a browser, including how to open or close windows and use the "back" key. • Use mapping tools to plan and choose alternate routes to and from various locations.	**Suggested Lesson Sequence** • Make a list of addresses of the local police station, fire house, hospital, and library. Use Google's mapping tools to identify where each of these buildings is located in relation to the school. • Decide which building is closest to the school using the distance measurement tool from the school to each building.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

Differentiation

- All lessons will be modeled through the use of an interactive board
- Keyboards will be marked with specific colors on various keys.
- Screens can be magnified if necessary.
- Students will be able to work in cooperative learning groups.
- Posters will be displayed as a visual to assist students when completing the computer basics.

Resources Provided

- Google Maps
- Neighborhood Map Machine
- **NETS•S Implementation Wiki – Grade K-2**
- **Moodle Lessons for each Grade Level**

LESSON REFLECTION

Reflect on the lesson you have developed and rate the degree to which the lesson ***Strongly, Moderately*** or ***Weakly*** meets the criteria below.

Lesson Activities:	**Strongly**	**Moderately**	**Weakly**
Are challenging and require higher order thinking and problem solving skills			
Allow for student choice			
Provide scaffolding for acquiring targeted knowledge/skills			
Integrate global perspectives			
Integrate 21st century skills			
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills			
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills			
Are varied to address different student learning styles and preferences			
Are differentiated based on student needs			
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process			
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives			
Provide opportunities for student reflection and selfassessment			
Provide data to inform and adjust instruction to better meet the varying needs of learners			

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Overview : Nature of Technology-Creativity and Innovation
Content Area: Technology
Unit Title: Nature of Technology: Creativity and Innovation
Target Course/Grade Level: PreK-2nd

Created August 1, 2015

Board of Education Approved October, 2015

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Summary: 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. The Nature of Technology: Creativity and Innovation Technology systems impact every aspect of the world in which we live.

Primary interdisciplinary connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.

21st century themes:

9.2 Career Awareness, Exploration and Preparation Students will explore the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.

9.3 Career and Technical Education
Arts, A/V Technology, & Communications Career Cluster
All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

9.3 Career and Technical Education
Information Technology Career Cluster
All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

9.3 Career and Technical Education
Science, Technology, Engineering, & Mathematics Career Cluster
All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Rationale: Technology products and systems impact every aspect of the world in which we live.

Learning Targets

Standards:

8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: 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.

A. The Nature of Technology: Creativity and Innovation *Technology systems impact every aspect of the world in which we live.*

Content Statements:

The characteristics and scope of technology.

The core concepts of technology.

The relationships among technologies and the connections between technology and other fields of study.

CPI #	Cumulative Progress Indicator (CPI)
8.2.2.A.1	Define products produced as a result of technology or of nature.
8.2.2.A.2	Describe how designed products and systems are useful at school, home and work.
8.2.2.A.3	Identify a system and the components that work together to accomplish its purpose.
8.2.2.A.4	Choose a product to make and plan the tools and materials needed.
8.2.2.A.5	Collaborate to design a solution to a problem affecting the community.

Unit Essential Questions

Can we control the pace at which technology is created? Should we, even if we can?

How does technology extend human capabilities?

What are the positive and negative consequences of technology? Should technologies that produce negative impact continue to be used?

When are the most sophisticated tools required and when are the simplest tools best?

Unit Enduring Understandings

Technology evolves at an ever accelerating pace based on the needs/wants of society and is influenced by cultural, political and environmental values and constraints.

Technological outcomes have the potential for anticipated and unanticipated positive and negative results.

The design process is fundamental to technology and engineering.

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Learning Targets

Students will ...

- Define products produced as a result of technology or of nature.
- Describe how designed products and systems are useful at school, home and work.
- Identify a system and the components that work together to accomplish its purpose.
- Choose a product to make and plan the tools and materials needed.
- Collaborate to design a solution to a problem affecting the community.

Evidence of Learning

Summative Assessment- a computer assessment will be administered by the end of grade 4.

Equipment needed: Computers with internet accessibility

Teacher Resources:

www.state.nj.us/education/cccs/2014/tech/

www.prometheanplanet.com

Educational websites

Pixie

Stationary Studio

Kidspiration

Formative Assessments

- Rubrics
- Checklist
- Projects
- Performance tasks
- Self-evaluation
- Surveys

Themes

Theme	Timeframe
Nature of Technology: Creativity and Innovation	Ongoing

Saddle River Public Schools
Technology/21st Century Life and Careers
Saddle River, NJ

Teacher Notes:
Curriculum Development Resources Click the links below to access additional resources used to design this unit: **www.state.nj.us/education/cccs/2014/tech/** **www.nutleyschools.org/sites/default/files/2840/K6TechCurric.pdf**

Instructional Design									
Content Area: Technology									
Unit Title: Nature of Technology- Creativity and Innovation						**Timeframe:** Ongoing			
Lesson Components									
21st Century Themes									
X	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy	X	Environmental Literacy
21st Century Skills									
X	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication	X	Collaboration		
Interdisciplinary Connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.									
Integration of Technology: All students will have access to a computer with wireless capabilities during this time.									
Equipment needed: computers with Internet access									

Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

Students: • Describe how technology products, systems, and resources are useful at school, home, and work.	**Suggested Lesson Sequence** • Identify technology devices around us- computer, bells, fire alarm, pencil sharpener. Describe basically how or what makes them work. • Using Pixie, students may draw a technology device or insert a clipart of that item. Using the text tools, describe how it works.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys
Differentiation • All lessons will be modeled through the use of an interactive board • Keyboards will be marked with specific colors on various keys. • Screens can be magnified if necessary.		
• Students will be able to work in cooperative learning groups. • Posters will be displayed as a visual to assist students when completing the computer basics.		
Resources Provided • Educational websites • Pixie		

LESSON REFLECTION

Reflect on the lesson you have developed and rate the degree to which the lesson ***Strongly, Moderately*** or ***Weakly*** meets the criteria below.

Lesson Activities:	**Strongly**	**Moderately**	**Weakly**
Are challenging and require higher order thinking and problem solving skills			
Allow for student choice			
Provide scaffolding for acquiring targeted knowledge/skills			
Integrate global perspectives			
Integrate 21st century skills			
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills			
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills			
Are varied to address different student learning styles and preferences			
Are differentiated based on student needs			
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process			
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives			
Provide opportunities for student reflection and selfassessment			
Provide data to inform and adjust instruction to better meet the varying needs of learners			

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Overview : Design
Content Area: Technology
Unit Title: Design
Target Course/Grade Level: PreK-2nd

Created August 1, 2015

Board of Education Approved October, 2015

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Summary: 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. Design: The design process is a systematic approach to solving problems.

Primary interdisciplinary connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.

21st century themes:

9.2 Career Awareness, Exploration and Preparation Students will explore the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.

9.3 Career and Technical Education
Arts, A/V Technology, & Communications Career Cluster
All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

9.3 Career and Technical Education
Information Technology Career Cluster
All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

9.3 Career and Technical Education
Science, Technology, Engineering, & Mathematics Career Cluster
All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

Unit Rationale: The design process is a systematic approach to solving problems.

Learning Targets

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Standards:

8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: 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.

C. Design: *The design process is a systematic approach to solving problems.*

Content Statements

The attributes of design.
The application of engineering design.
The role of troubleshooting, research and development, invention and innovation and experimentation in problem solving.

CPI #	Cumulative Progress Indicator (CPI)
8.2.2.C.1	Brainstorm ideas on how to solve a problem or build a product.
8.2.2.C.2	Create a drawing of a product or device that communicates its function to peers and discuss.
8.2.2.C.3	Explain why we need to make new products.
8.2.2.C.4	Identify designed products and brainstorm how to improve one used in the classroom.
8.2.2.C.5	Describe how the parts of a common toy or tool interact and work as part of a system.
8.2.2.C.6	Investigate a product that has stopped working and brainstorm ideas to correct the problem.

Unit Essential Questions

Can we control the pace at which technology is created? Should we, even if we can?
How does technology extend human capabilities? What are the positive and negative consequences of technology?
Should technologies that produce negative impact continue to be used?
When are the most sophisticated tools required and when are the simplest tools best?

Unit Enduring Understandings

Technology evolves at an ever accelerating pace based on the needs/wants of society and is influenced by cultural, political and environmental values and constraints.
Technological outcomes have the potential for anticipated and unanticipated positive and negative results.
The design process is fundamental to technology and engineering.

Unit Learning Targets

Students will ...

• Brainstorm ideas on how to solve a problem or build a product.

- Create a drawing of a product or device that communicates its function to peers and discuss.
- Explain why we need to make new products.
- Identify designed products and brainstorm how to improve one used in the classroom.
- Describe how the parts of a common toy or tool interact and work as part of a system.
- Investigate a product that has stopped working and brainstorm ideas to correct the problem.

Evidence of Learning

Summative Assessment- a computer assessment will be administered by the end of grade 4.

Equipment needed: Computers with internet accessibility

Teacher Resources:
www.state.nj.us/education/cccs/2014/tech/
www.prometheanplanet.com
Educational websites
Pixie
Stationary Studio
Kidspiration

Formative Assessments

- Rubrics
- Checklist
- Projects
- Performance tasks
- Self-evaluation
- Surveys

Themes

Lesson	Timeframe
Design	Ongoing
Communication and Collaboration	Ongoing

Teacher Notes:

Curriculum Development Resources

Click the links below to access additional resources used to design this unit:

www.state.nj.us/education/cccs/2014/tech/ **NETS•S Implementation Wiki – Grade K-2**
Moodle Lessons for each Grade Level

Saddle River Public Schools
Technology/21st Century Life and Careers
Saddle River, NJ

Instructional Design	
Content Area: Technology	
Unit Title: Design	**Timeframe:** Ongoing

Lesson Components

21st Century Themes

X	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy	X	Environmental Literacy

21st Century Skills

X	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication	X	Collaboration

Interdisciplinary Connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.

Integration of Technology: All students will have access to a computer with wireless capabilities during this time.

Equipment needed: Computers with Internet access

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks
Students: • Brainstorm and devise a plan to repair a broken toy or tool using the design process. • Investigate the influence of a specific technology on the individual, family, community, and environment.	**Suggested Lesson Sequence** • Use Pixie and create a web. • Place the specific technology in the center and write the ideas around the web. • Design an invention or toy and explain how it works using Pixie.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

Differentiation

- All lessons will be modeled through the use of an interactive board
- Keyboards will be marked with specific colors on various keys.
- Screens can be magnified if necessary.
- Students will be able to work in cooperative learning groups.

- Posters will be displayed as a visual to assist students when completing the computer basics.

Resources Provided

- Pixie

NETS•S Implementation Wiki – Grade K-2
Moodle Lessons for each Grade Level

Saddle River Public Schools
Technology/21st Century Life and Careers
Saddle River, NJ

Instructional Design									
Content Area: Technology									
Unit Title: Design							**Timeframe:** Ongoing		
Lesson Components									
21st Century Themes									
X	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy	X	Environmental Literacy
21st Century Skills									
X	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication	X	Collaboration		
Interdisciplinary Connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.									
Integration of Technology: All students will have access to a computer with wireless capabilities during this time.									
Equipment needed: Computers with Internet access									

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks
Students: • Communicate with students in the United States or other countries using digital tools to gather information about a specific topic and share results.	**Suggested Lesson Sequence** Share activities or pictures of the 100 Day Activity or Dr. Seuss Day with others on a Blog, Wiki or Skype.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

Differentiation

- All lessons will be modeled through the use of an interactive board
- Keyboards will be marked with specific colors on various keys.
- Screens can be magnified if necessary.
- Students will be able to work in cooperative learning groups.
- Posters will be displayed as a visual to assist students when completing the computer basics.

Resources Provided

• Skype •
Webcams

LESSON REFLECTION

Reflect on the lesson you have developed and rate the degree to which the lesson ***Strongly, Moderately*** or ***Weakly*** meets the criteria below.

Lesson Activities:	**Strongly**	**Moderately**	**Weakly**
Are challenging and require higher order thinking and problem solving skills			
Allow for student choice			
Provide scaffolding for acquiring targeted knowledge/skills			
Integrate global perspectives			
Integrate 21st century skills			
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills			
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills			
Are varied to address different student learning styles and preferences			
Are differentiated based on student needs			
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process			
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives			
Provide opportunities for student reflection and selfassessment			
Provide data to inform and adjust instruction to better meet the varying needs of learners			

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Overview : Technology and Society
Content Area: Technology
Unit Title: Technology and Society
Target Course/Grade Level: PreK-2nd

Created August 1, 2015

Board of Education Approved October, 2015

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Summary: 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. Knowledge and understanding of human, cultural and society values are fundamental when designing technology systems and products in the global society.

Primary interdisciplinary connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.

21st century themes:

9.2 Career Awareness, Exploration and Preparation Students will explore the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.

9.3 Career and Technical Education
Arts, A/V Technology, & Communications Career Cluster
All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

9.3 Career and Technical Education
Information Technology Career Cluster
All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

9.3 Career and Technical Education
Science, Technology, Engineering, & Mathematics Career Cluster
All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

Created August 1, 2015
Board of Education Approved October, 2015

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Rationale: Knowledge and understanding of human, cultural, and societal values are fundamental when designing technology systems and products in the global society.

Learning Targets

Standards:

8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: 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.

B. Technology and Society: *Knowledge and understanding of human, cultural and society values are fundamental when designing technology systems and products in the global society.*

Content Statements:

The cultural, social, economic and political effects of technology.
The effects of technology on the environment.
The role of society in the development and use of technology. The influence of technology on history.

CPI #	Cumulative Progress Indicator (CPI)
8.2.2.B.1	Identify how technology impacts or improves life.
8.2.2.B.2	Demonstrate how reusing a product affects the local and global environment.
8.2.2.B.3	Identify products or systems that are designed to meet human needs.
8.2.2.B.4	Identify how the ways people live and work has changed because of technology.

Unit Essential Questions	Unit Enduring Understandings
Can we control the pace at which technology is created? Should we, even if we can? How does technology extend human capabilities? What are the positive and negative consequences of technology? Should technologies that produce negative impact continue to be used? When are the most sophisticated tools required and when are the simplest tools best?	Technology evolves at an ever accelerating pace based on the needs/wants of society and is influenced by cultural, political and environmental values and constraints. Technological outcomes have the potential for anticipated and unanticipated positive and negative results. The design process is fundamental to technology and engineering.

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Learning Targets

Students will ...

- Identify how technology impacts or improves life.
- Demonstrate how reusing a product affects the local and global environment.
- Identify products or systems that are designed to meet human needs.
- Identify how the ways people live and work has changed because of technology.

Evidence of Learning

Summative Assessment- a computer assessment will be administered by the end of grade 4.

Equipment needed: Computers with internet accessibility

Teacher Resources: **www.state.nj.us/education/cccs/2014/tech/**

www.prometheanplanet.com

Educational websites

Pixie

Stationary Studio

Larson's Math

Graph Club

Carnival Countdown

Neighborhood Map Machine

Kidspiration

NETS•S Implementation Wiki – Grade K-2

Moodle Lessons for each Grade Level

Formative Assessments

- Rubrics
- Checklist
- Projects
- Performance tasks
- Self-evaluation
- Surveys

Themes

Theme	Timeframe

Created August 1, 2015

Board of Education Approved October, 2015

Technology and Society	Ongoing

Teacher Notes:

Curriculum Development Resources

Click the links below to access additional resources used to design this unit:

www.state.nj.us/education/cccs/2014/tech/ **NETS•S Implementation Wiki – Grade K-2**

Moodle Lessons for each Grade Level

Saddle River Public Schools
Technology/21st Century Life and Careers
Saddle River, NJ

Instructional Design									
Content Area: Technology									
Unit Title: Technology & Society						**Timeframe:** Ongoing			
Lesson Components									
21st Century Themes									
X	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy	X	Environmental Literacy
21st Century Skills									
X	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication	X	Collaboration		
Interdisciplinary Connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.									
Integration of Technology: All students will have access to a computer with wireless capabilities during this time.									
Equipment needed: Computers with Internet access									

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks
Students: • Demonstrate how reusing a product affects the local and global environment.	**Suggested Lesson Sequence** • Using Pixie, students can make a recycling poster using the drawing and text tools.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

Differentiation

- All lessons will be modeled through the use of an interactive board
- Keyboards will be marked with specific colors on various keys.
- Screens can be magnified if necessary.
- Students will be able to work in cooperative learning groups.
- Posters will be displayed as a visual to assist students when completing the computer basics.

Resources Provided

- Pixie
- Recycling books from the Media center

LESSON REFLECTION

Reflect on the lesson you have developed and rate the degree to which the lesson ***Strongly, Moderately*** or ***Weakly*** meets the criteria below.

Lesson Activities:	**Strongly**	**Moderately**	**Weakly**
Are challenging and require higher order thinking and problem solving skills			
Allow for student choice			
Provide scaffolding for acquiring targeted knowledge/skills			
Integrate global perspectives			
Integrate 21st century skills			
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills			
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills			
Are varied to address different student learning styles and preferences			
Are differentiated based on student needs			
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process			
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives			
Provide opportunities for student reflection and selfassessment			
Provide data to inform and adjust instruction to better meet the varying needs of learners			

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Overview : Abilities for a Technological World
Content Area: Technology
Unit Title: Abilities for a Technological World
Target Course/Grade Level: PreK-2nd

Created August 1, 2015

Board of Education Approved October, 2015

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Summary: 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. The designed world is the product of a design process that provides the means to convert resources into products and systems.

Primary interdisciplinary connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.

21st century themes:

9.2 Career Awareness, Exploration and Preparation Students will explore the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.

9.3 Career and Technical Education
Arts, A/V Technology, & Communications Career Cluster
All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

9.3 Career and Technical Education
Information Technology Career Cluster
All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

9.3 Career and Technical Education
Science, Technology, Engineering, & Mathematics Career Cluster
All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

Unit Rationale: Technological products and systems are created through the application and appropriate use of technological resources.

Learning Targets

Standards: 8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: 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.

D. Abilities for a Technological World: *The designed world is the product of a design process that provides the means to convert resources into products and systems.*

Content Statements:
Apply the design process.
Use and maintain technological products and systems. Assess the impact of products and systems.

CPI #	Cumulative Progress Indicator (CPI)
8.2.2.D.1	Collaborate and apply a design process to solve a simple problem from everyday experiences.
8.2.2.D.2	Discover how a product works by taking it apart, sketching how parts fit, and putting it back together.
8.2.2.D.3	Identify the strengths and weaknesses in a product or system.
8.2.2.D.4	Identify the resources needed to create technological products or systems.
8.2.2.D.5	Identify how using a tool (such as a bucket or wagon) aids in reducing work.

Unit Essential Questions

Can we control the pace at which technology is created? Should we, even if we can?
How does technology extend human capabilities? What are the positive and negative consequences of technology?
Should technologies that produce negative impact continue to be used?
When are the most sophisticated tools required and when are the simplest tools best?

Unit Enduring Understandings

Technology evolves at an ever accelerating pace based on the needs/wants of society and is influenced by cultural, political and environmental values and constraints.
Technological outcomes have the potential for anticipated and unanticipated positive and negative results.
The design process is fundamental to technology and engineering.

Unit Learning Targets

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Students will ...

- Collaborate and apply a design process to solve a simple problem from everyday experiences.
- Discover how a product works by taking it apart, sketching how parts fit, and putting it back together.
- Identify the strengths and weaknesses in a product or system.
- Identify the resources needed to create technological products or systems.
- Identify how using a tool (such as a bucket or wagon) aids in reducing work.

Evidence of Learning

Summative Assessment- a computer assessment will be administered by the end of grade 4.

Equipment needed: Computers with internet accessibility

Teacher Resources: **www.state.nj.us/education/cccs/2014/tech/**

www.prometheanplanet.com

Educational websites

Pixie

Stationary Studio

Larson's Math

Graph Club

Carnival Countdown

Neighborhood Map Machine

Kidspiration

Formative Assessments

- Rubrics
- Checklist
- Projects
- Performance tasks
- Self-evaluation
- Surveys

Themes

Theme	Timeframe

Created August 1, 2015

Board of Education Approved October, 2015

Abilities for a Technological World	Ongoing
Teacher Notes:	
Curriculum Development Resources Click the links below to access additional resources used to design this unit: **www.state.nj.us/education/cccs/2014/tech/** **NETS•S Implementation Wiki – Grade K-2** **Moodle Lessons for each Grade Level**	

Saddle River Public Schools
Technology/21st Century Life and Careers
Saddle River, NJ

Instructional Design									
Content Area: Technology									
Unit Title: Abilities for a Technological World						**Timeframe:** Ongoing			
Lesson Components									
21st Century Themes									
X	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy	X	Environmental Literacy
21st Century Skills									
X	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication	X	Collaboration		
Interdisciplinary Connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.									
Integration of Technology: All students will have access to a computer with wireless capabilities during this time.									
Equipment needed: Computers with Internet access									

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks
Students: • Identify the resources needed to create technological products and systems.	**Suggested Lesson Sequence** Discuss how things work. What is needed? Use Pixie to draw slides showing how things work.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

Created August 1, 2015
Board of Education Approved October, 2015

Differentiation

- All lessons will be modeled through the use of an interactive board
- Keyboards will be marked with specific colors on various keys.
- Screens can be magnified if necessary.
- Students will be able to work in cooperative learning groups.
- Posters will be displayed as a visual to assist students when completing the computer basics.

Resources Provided

- Pixie

LESSON REFLECTION

Reflect on the lesson you have developed and rate the degree to which the lesson ***Strongly, Moderately*** or ***Weakly*** meets the criteria below.

Lesson Activities:	**Strongly**	**Moderately**	**Weakly**
Are challenging and require higher order thinking and problem solving skills			
Allow for student choice			
Provide scaffolding for acquiring targeted knowledge/skills			
Integrate global perspectives			
Integrate 21st century skills			
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills			
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills			
Are varied to address different student learning styles and preferences			
Are differentiated based on student needs			
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process			
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives			
Provide opportunities for student reflection and selfassessment			
Provide data to inform and adjust instruction to better meet the varying needs of learners			

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Overview : Computational Thinking: Programming
Content Area: Technology
Unit Title: Computational Thinking: Programming
Target Course/Grade Level: PreK-2nd

Created August 1, 2015

Board of Education Approved October, 2015

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Summary: 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. Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.

Primary interdisciplinary connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.

21st century themes:

9.2 Career Awareness, Exploration and Preparation Students will explore the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.

9.3 Career and Technical Education
Arts, A/V Technology, & Communications Career Cluster
All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

9.3 Career and Technical Education
Information Technology Career Cluster
All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

9.3 Career and Technical Education
Science, Technology, Engineering, & Mathematics Career Cluster
All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

Created August 1, 2015
Board of Education Approved October, 2015

Unit Rationale: The designed world is the product of a design process that provides the means to convert resources into products and systems.

Learning Targets

Standards: 8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: 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.

E. Computational Thinking: Programming: *Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.*

Content Statements:
Computational thinking and computer programming as tools used in design and engineering.

CPI #	Cumulative Progress Indicator (CPI)
8.2.2.E.1	List and demonstrate the steps to an everyday task.
8.2.2.E.2	Demonstrate an understanding of how a computer takes input through a series of written commands and then interprets and displays information as output.
8.2.2.E.3	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).
8.2.2.E.4	Debug an algorithm (i.e., correct an error).
8.2.2.E.5	Use appropriate terms in conversation (e.g., basic vocabulary words: input, output, the operating system, debug, and algorithm).

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Unit Essential Questions	**Unit Enduring Understandings**
Can we control the pace at which technology is created? Should we, even if we can? How does technology extend human capabilities? What are the positive and negative consequences of technology? Should technologies that produce negative impact continue to be used? When are the most sophisticated tools required and when are the simplest tools best?	Technology evolves at an ever accelerating pace based on the needs/wants of society and is influenced by cultural, political and environmental values and constraints. Technological outcomes have the potential for anticipated and unanticipated positive and negative results. The design process is fundamental to technology and engineering.

Unit Learning Targets

Students will ...

- List and demonstrate the steps to an everyday task.
- Demonstrate an understanding of how a computer takes input through a series of written commands and then interprets and displays information as output.
- 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).
- Debug an algorithm (i.e., correct an error).
- Use appropriate terms in conversation (e.g., basic vocabulary words: input, output, the operating system, debug, and algorithm).

Evidence of Learning

Summative Assessment- a computer assessment will be administered by the end of grade 4.

Equipment needed: Computers with internet accessibility

Teacher Resources: **www.state.nj.us/education/cccs/2014/tech/**

www.prometheanplanet.com

Educational websites

Pixie

Stationary Studio

Kidspiration

Formative Assessments

- Rubrics
- Checklist
- Projects
- Performance tasks
- Self-evaluation
- Surveys

Themes

Theme	Timeframe
Computational Thinking: Programming	Ongoing

Teacher Notes:

Curriculum Development Resources

Click the links below to access additional resources used to design this unit:

www.state.nj.us/education/cccs/2014/tech/
NETS•S Implementation Wiki – Grade K-2
Moodle Lessons for each Grade Level

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Instructional Design									
Content Area: Technology									
Unit Title: Computational Thinking: Programming							**Timeframe:** Ongoing		
Lesson Components									
21st Century Themes									
X	Global Awareness		Financial, Economic, Business, and Entrepreneurial Literacy		Civic Literacy		Health Literacy	X	Environmental Literacy
21st Century Skills									
X	Creativity and Innovation	X	Critical Thinking and Problem Solving	X	Communication	X	Collaboration		
Interdisciplinary Connections: All major subject areas can be integrated into the area of technology including: English Language Arts, Mathematics, Social Studies, Science, and Health.									
Integration of Technology: All students will have access to a computer with wireless capabilities during this time.									
Equipment needed: Computers with Internet access									

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks
Students: • Describe how the parts of a common toy or tool interact and work as part of a system. • Explain the importance of safety in the use and selection of appropriate tools and resources for a specific purpose.	**Suggested Lesson Sequence** • Teacher shows students some unfamiliar tools. Students guess what the tools do and explain how they work. • Children discuss the use of and safe way to handle tools. (pencil, scissor, computer, matches, knives, forks, staplers etc.) • Using Pixie, insert a picture of a common tool and describe how to safely use it.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

Differentiation

- All lessons will be modeled through the use of an interactive board
- Keyboards will be marked with specific colors on various keys.
- Screens can be magnified if necessary.
- Students will be able to work in cooperative learning groups.
- Posters will be displayed as a visual to assist students when completing the computer basics.

Resources Provided

- Pixie

LESSON REFLECTION

Reflect on the lesson you have developed and rate the degree to which the lesson ***Strongly, Moderately*** or ***Weakly*** meets the criteria below.

Lesson Activities:	**Strongly**	**Moderately**	**Weakly**
Are challenging and require higher order thinking and problem solving skills			
Allow for student choice			
Provide scaffolding for acquiring targeted knowledge/skills			
Integrate global perspectives			
Integrate 21st century skills			
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills			
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills			
Are varied to address different student learning styles and preferences			
Are differentiated based on student needs			
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process			
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives			
Provide opportunities for student reflection and selfassessment			
Provide data to inform and adjust instruction to better meet the varying needs of learners			

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Unit Overview Template
Content Area: Technology
Unit Title: Computer Literacy
Target Course/Grade Level: 3 – 5

Created August 1, 2015

Board of Education Approved October, 2015

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Unit Summary

To fully implement and integrate the use of current and future technologies with the intent of enhancing the teaching and learning process as well as fostering students' ability to problem solve and think critically

Primary interdisciplinary connections: Language Arts, Science, Social Studies

21st Century Standards

9.1 Personal Finance Literacy

Students will learn important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.

9.2 Career Awareness, Exploration and Preparation

Students will explore the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements

9.3 Career and Technical Education

Arts, A/V Technology, & Communications Career Cluster

Information Technology Career Cluster

All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

Career Ready Practices

CRP1. Act as a responsible and contributing citizen and employee.
CRP2. Apply appropriate academic and technical skills.
CRP3. Attend to personal health and financial well-being.
CRP4. Communicate clearly and effectively and with reason.
CRP5. Consider the environmental, social and economic impacts of decisions.
CRP6. Demonstrate creativity and innovation.
CRP7. Employ valid and reliable research strategies.
CRP8. Utilize critical thinkin to make sense of problems and persevere in solving them.
CRP9. Model integrity, ethical leadership and effective management.
CRP10. Plan education and career paths aligned to personal goals.
CRP11. Use technology to enhance productivity.

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

21st century skills:

Information Literacy

Access and Evaluate Information

- Access information efficiently (time) and effectively (sources)
- Evaluate information critically and competently

Use and Manage Information

- Use information accurately and creatively for the issue or problem at hand
- Manage the flow of information from a wide variety of sources
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information

Media Literacy

Analyze Media

- Understand both how and why media messages are constructed, and for what purposes
- Examine how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of media

Create Media Products

- Understand and utilize the most appropriate media creation tools, characteristics and conventions
- Understand and effectively utilize the most appropriate expressions and interpretations in diverse, multi-cultural environments

ICT (Information, Communications & Technology) Literacy

Apply Technology Effectively

- Use technology as a tool to research, organize, evaluate and communicate information
- Use digital technologies (computers, PDAs, media players, GPS, etc.), communication/networking tools and social networks appropriately to access, manage, integrate, evaluate and create information to successfully function in a knowledge economy
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies

Unit Rationale

Interaction with technology is a necessity in today's society. Teachers will strive to integrate technology into the learning environment wherever appropriate to enhance and expand the core curriculum Saddle River students need to:

- be problem solvers
- be critical thinkers
- communicate and compute effectively and accurately
- acquire knowledge and skills to utilize technology in an ethical way to benefit self and society; therefore becoming a contributing, responsible member of society.

Learning Targets

Standards

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.

A. Technology Operations and Concepts
B. Creativity and Innovation
C. Communication and Collaboration
D. Digital Citizenship
E. Research and Information Fluency
F. Critical Thinking, Problem Solving, and Decision-Making

8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: 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.

A. The Nature of Technology: Creativity and Innovation
B. Technology and Society
C. Design
D. Abilities for a Technological World
E. Computational Thinking: Programming

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Content Statements

- Understand and use technology systems.
- Select and use applications effectively and productively.
- Apply existing knowledge to generate new ideas, products, or processes.
- Create original works as a means of personal or group expression.
- 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.
- Advocate and practice safe, legal, and responsible use of information and technology.
- Demonstrate personal responsibility for lifelong learning.
- Exhibit leadership for digital citizenship.
- 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.
- 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

CPI #	Cumulative Progress Indicator (CPI)
8.1.5.A.1	**Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.**
8.1.5.A.2	**Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures.**
8.1.5.A.3	**Use a graphic organizer to organize information about problem or issue.**
8.1.5.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.**
8.1.5.B.1	**Collaborative to produce a digital story about a significant local event or issue based on first-person interviews.**

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.**
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.**
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.**
8.1.5.D.4	**Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.**
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.**
8.1.5.F.1	**Apply digital tools to collect, organize, and analyze data that support a scientific finding.**
8.2.5.A.1	Compare and contrast how products made in nature differ from products that are human made in how they are produced and used.
8.2.5.A.2	Investigate and present factors that influence the development and function of a product and a system.
8.2.5.A.3	Investigate and present factors that influence the development and function of products and systems, e.g., resources, criteria and constraints.
8.2.5.A.4	Compare and contrast how technologies have changed over time due to human needs and economic, political and/or cultural influences.
8.2.5.A.5	Identify how improvement in the understanding of materials science impacts technologies.
8.2.5.B.1	Examine ethical considerations in the development and production of a product through its life cycle.
8.2.5.B.2	Examine systems used for recycling and recommend simplification of the systems and share with product developers.
8.2.5.B.3	Investigate ways that various technologies are being developed and used to reduce improper use of resources.
8.2.5.B.4	Research technologies that have changed due to society's changing needs and wants.
8.2.5.B.5	Explain the purpose of intellectual property law.

8.2.5.B.6	Compare and discuss how technologies have influenced history in the past century.
8.2.5.C.1	Collaborate with peers to illustrate components of a designed system.
8.2.5.C.2	Explain how specifications and limitations can be used to direct a product's development.
8.2.5.C.3	Research how design modifications have lead to new products.
8.2.5.C.4	Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models.
8.2.5.C.5	Explain the functions of a system and subsystems.
8.2.5.C.6	Examine a malfunctioning tool and identify the process to troubleshoot and present options to repair the tool.
8.2.5.C.7	Work with peers to redesign an existing product for a different purpose.
8.2.5.D.1	Identify and collect information about a problem that can be solved by technology, generate ideas to solve the problem, and identify constraints and trade-offs to be considered.
8.2.5.D.2	Evaluate and test alternative solutions to a problem using the constraints and tradeoffs identified in the design process to evaluate potential solutions.
8.2.5.D.3	Follow step by step directions to assemble a product or solve a problem.
8.2.5.D.4	Explain why human-designed systems, products, and environments need to be constantly monitored, maintained, and improved.
8.2.5.D.5	Describe how resources such as material, energy, information, time, tools, people and capital are used in products or systems.
8.2.5.D.6	Explain the positive and negative effect of products and systems on humans, other species and the environment, and when the product or system should be used.
8.2.5.D.7	Explain the impact that resources such as energy and materials used in a process to produce products or system have on the environment.
8.2.5.E.1	Identify how computer programming impacts our everyday lives.
8.2.5.E.2	Demonstrate an understanding of how a computer takes input of data, processes and stores the data through a series of commands, and outputs information.
8.2.5.E.3	Using a simple, visual programming language, create a program using loops, events and procedures to generate specific output.

8.2.5.E.4	Use appropriate terms in conversation (e.g., algorithm, program, debug, loop, events, procedures, memory, storage, processing, software, coding, procedure, and data).

Unit Essential Questions	**Unit Enduring Understandings**
• How are digital tools used to access, manage, evaluate, and synthesize information to solve problems individually and collaboratively? • How are digital tools used to create and communicate knowledge?	• The use of technology and digital tools requires knowledge and appropriate use of operations and related applications. • The use of digital tools and media-rich resources enhances creativity and the construction of knowledge. • Digital tools and environments support the learning process and foster collaboration in solving local or global issues and problems. • Technological advancements create societal concerns regarding the practice of safe, legal, and ethical behaviors. • Effective use of digital tools assists in gathering and managing information. • Information accessed using digital tools assists in generating solutions and making decisions. • Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. • 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. • Students apply digital tools to gather, evaluate, and use information. • Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

Unit Learning Targets
Students will be able to ...

• Select and use the appropriate digital tools and resources to accomplish a variety of tasks

including solving problems.

- Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures.
- Use a graphic organizer to organize information about problem or issue.
- Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data.
- Create and use a database to answer basic questions.
- Export data from a database into a spreadsheet; analyze and produce a report that explains the analysis of the data.
- Collaborative to produce a digital story about a significant local event or issue based on first-person interviews.
- 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.
- Understand the need for and use of copyrights.
- 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.
- 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.
- Apply digital tools to collect, organize, and analyze data that support a scientific finding.

Evidence of Learning

Summative Assessment (X days)
Grade 4 – end-of-year assessment (learning.com)
Grade 5 – Tech Skills Assessment 24 Question (Atomic Learning – based on 2007 NET-S)

Equipment needed: Computers with headphones, Internet access

Teacher Resources: Google Apps, http://www.typingweb.com/tutor/courses/, iLife Suite, Photo Booth, Scratch software, iWorks, eSchool-Course Management website

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Formative Assessments

- Teacher observation
- projects
- quizzes
-
-

Grade 3 Topics	
Topic	**Lessons**
Topic 1 The Basics, things to remember *(Technology Operations and Concepts)*	http://eschool.fpks.org/moodle/course/view.php?id=11
Topic 2 Internet Safety *(Digital Citizenship)*	http://eschool.fpks.org/moodle/course/view.php?id=11
Topic 3 Basic Publishing *(Technology Operations and Concepts)*	http://eschool.fpks.org/moodle/course/view.php?id=11
Topic 4 Spreadsheets and Graphs *(Technology Operations and Concepts)*	http://eschool.fpks.org/moodle/course/view.php?id=11
Topic 5 Multimedia Presentations *(Creativity and Innovation)*	http://eschool.fpks.org/moodle/course/view.php?id=11
Topic 6 Using iLife for Creating *(Creativity and Innovation)*	http://eschool.fpks.org/moodle/course/view.php?id=11
Topic 7 Using Scratch to Create Animations *(Critical Thinking, Problem Solving and Decision Making)*	http://eschool.fpks.org/moodle/course/view.php?id=11
Topic 8 Let's Create a Newsletter Using Google Docs! *(Communication and Collaboration)* *(Research and Information Fluency)*	http://eschool.fpks.org/moodle/course/view.php?id=11
Grade 4 Topics	
Topic 1 The Basics, things to remember *(Technology Operations and Concepts)*	http://eschool.fpks.org/moodle/course/view.php?id=12
Topic 2 Internet Safety *(Digital Citizenship)*	http://eschool.fpks.org/moodle/course/view.php?id=12
Topic 3 Basic Publishing *(Technology Operations and Concepts)*	http://eschool.fpks.org/moodle/course/view.php?id=12
Topic 4 Spreadsheets and Graphs *(Technology Operations and Concepts)*	http://eschool.fpks.org/moodle/course/view.php?id=12

Topic 5 Multimedia Presentations *(Creativity and Innovation)*	**http://eschool.fpks.org/moodle/course/view.php?id=12**
Topic 6 Using iLife for Creating *(Creativity and Innovation)*	**http://eschool.fpks.org/moodle/course/view.php?id=12**
Topic 7 Using Scratch to Create Animations *(Critical Thinking, Problem Solving and Decision Making)*	**http://eschool.fpks.org/moodle/course/view.php?id=12**
Topic 8 Let's Create a Presentation Using Google Docs! *(Communication and Collaboration)*	**http://eschool.fpks.org/moodle/course/view.php?id=12**

(Research and Information Fluency)	
Grade 5 Topics	
Topic 1 The Basics, things to remember Technology Glossary, Pretests *(Technology Operations and Concepts)*	**http://eschool.fpks.org/moodle/course/view.php?id=13**
Topic 2 Basic Publishing *(Technology Operations and Concepts)*	**http://eschool.fpks.org/moodle/course/view.php?id=13**
Topic 3 Internet Safety and Etiquette *(Digital Citizenship)*	**http://eschool.fpks.org/moodle/course/view.php?id=13**
Topic 4 Spreadsheets and Graphs *(Technology Operations and Concepts)*	**http://eschool.fpks.org/moodle/course/view.php?id=13**
Topic 5 Multimedia Presentations *(Technology Operations and Concepts)* *(Creativity and Innovation)* *(Research and Information Literacy)*	**http://eschool.fpks.org/moodle/course/view.php?id=13**
Topic 6 Using iLife for Creating *(Creativity and Innovation)*	**http://eschool.fpks.org/moodle/course/view.php?id=13**
Topic 7 Using Google Docs, iPhoto and iMovie to Create *(Technology Operations and Concepts)*	**http://eschool.fpks.org/moodle/course/view.php?id=13**
Topic 8 Let's Scratch (Intro to Scratch) *(Critical Thinking, Problem Solving and Decision Making)*	**http://eschool.fpks.org/moodle/course/view.php?id=13**

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Topic 9 Using Scratch to Problem Solve (Create Your Own Game) *(Creativity and Innovation)* *(Critical Thinking, Problem Solving and Decision Making)*	**http://eschool.fpks.org/moodle/course/view.php?id=13**

Teacher Notes:

Curriculum Development Resources

Click the links below to access additional resources used to design this unit:

ISTE NET-S Implementation Wiki

Partnership for 21st Century Skills

Learning Activity Types – William And Mary University - TPACK

https://sites.google.com/a/fpks.org/toolsforteachers/tools-to-enhance-instruction

http://www.commonsensemedia.org/educators/curriculum/k-5

http://www.typingweb.com/tutor/courses/

Grade 3 Topics		
Topic 1 **The Basics, Things to Remember** *(Technology Operations and Concepts)*		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

Students: • Demonstrate touch typing techniques for alpha, numeric and punctuation, grade level specific • Develop use of basic terms including network drives, fonts, cut, copy, paste, open and close, save, maximize, minimize, highlight, menu, favorites, links, toolbar, programs, applications, icon, graphic, message box, white space, data projectors, cursor, exit, double click and navigate • Use correct terminology for basic parts of a computer •Introduce Network accounts, Log-on/off, save to, retrieve files from, organizing files • Introduce Google Drive Log-on procedures and basic file creation capabilities.	• Introduction to touch-typing and use of software Typing web. • Identify basic features of the computers in this building and compare and contrast similarities and differences of the computers from previous school. • Utilize a graphic organizer that shows the structure of the local computer in relation to a network account and to web account (Google Drive)	• Timed typing tests five times during the year. (Beginning of school to create benchmark and then at the end of each MP) • Vocabulary assessment on terminology. • Student demonstration of ability to log on to network drive and save and retrieve files. (Teacher Observation) • Student demonstration of ability to log on to Google Drive and save and retrieve files. (Teacher Observation)
Topic 2 **Internet Safety** *(Digital Citizenship)*		
Goals/Objectives	**Learning**	**Formative Assessment**
	Activities/Instructional Strategies	**Tasks**

• Student will demonstrate an understanding of the rules when accessing FP computers. • Students know not to use other's work. • Students Acquire information that is in the form of text, graphics, audio, and video and save information for use in student projects consistent with copyright issues, with teacher assistance. • Use proper computer etiquette (clean hands, no banging keyboard or mouse, respect equipment, hands stay in your space, no cords in mouth) • Students will demonstrate proper etiquette when using the Internet •Students will practice simple searches • Students will practice simple search strategies used to acquire electronic information. Including, but not limited to: >Show evidence of the use of keywords for searching through clip art >Show evidence for the use of keywords for searching online library catalog	• Discussion of Internet safety and the FP Acceptable user Agreement. • Watch BrainPop video on Internet Safety. • Net-etiquette and cyber bullying using the FBI's site for online safety. (https://sos.fbi.gov/) • Watch Netsmartz.org video – bad Netiquette Stinks (http://www.netsmartz.org/NetSmartzKids/BadNetiquetteStinks) • Take the Safety Pledge- (http://www.netsmartz.org/Resources/Pledges) • Keep it Private Activity	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

>Show evidence of the use of keywords for internet research >Identify and show evidences of the use of websites that can provide valid information (i.e. Encyclopedia Britannica vs. Wikipedia) •Students will practice cyber safety and ethics when using the Internet		
Topic 3 **Basic Publishing** *(Technology Operations and Concepts)*		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

• Use proper keyboarding techniques such as correct hand and body positions and smooth and rhythmic keystroke patterns as gradelevel appropriate >Sit properly at the computer (flat on bottom, back to back of chair); Use two hands at the keyboard, left and right side keys, thumbs on space bar >Has experience with keyboarding through online help, software on computer >Always reinforce the Home Row Keys •Demonstrate touch keyboarding techniques for operating the alphabetic, numeric, punctuation, and symbol keys as grade-level	• Continue work on Typing Web program to practice typing skills • All activities that include typing should have students following proper posture, hand placement and fingering of keys. •Complete the "Type This Activity" using Google Drive.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

appropriate >Use shift key to produce capitals >Use numeric keys >Use all punctuation symbols >Use backspace key to delete space bar to space, and enter key to go to another line >One space between words and sentences. >Use arrow keys to navigate page • Use font attributes, color, white space, and graphics to ensure that products are appropriate For the defined audience. >Discuss importance of the size and style of the font (crazy fonts are hard to read) >Color of font (light on light background is hard to read) >Pictures added to a document should not be too small or too big and should be appropriate to the topic >Create and print a word document >Format a document using font, color, size, style, Word Art, white space, vertical and horizontal centering •Use font attributes, color, white space, and graphics to ensure that products are		

appropriate for the communication media		

including multimedia screen displays and printed materials. >Make sure fonts, spacing and pictures are the correct size and are easy to read for print or for screen viewing >Discuss picking colors that stand out against the background >If they are making a presentation they should make sure it is readable on a projector >discuss picking colors and simple fonts that are presentation friendly • Create a new document or open an existing one on the network folder •Use Alignment tools to format text (left, right, center, justify).		
Topic 4 **Spreadsheets and Graphs** *(Technology Operations and Concepts)*		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

• Identify and locate **cells, rows**, and **columns.** • Create a spreadsheet by entering text, and values (numeric) • Change the font size, type, style (**bold, italicize, underline**), and color. • Use **Chart Wizard** to create	• Students will enter data into a pre-created spreadsheet with a chart. They will watch the chart change as their data is entered. •Watch video on how to create a spreadsheet in Google Drive • Create a spreadsheet in Google Drive that demonstrates information from science or social studies class.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys
charts/graphs as grade level and task appropriate to express ideas and solve problems**.** • Interpret the graph, what do the numbers "say"		
Topic 5 **Multimedia Presentations** *(Creativity and Innovation)*		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

• Add text to slides. •Insert multiple **New Slides**. •Change font size, type, style (**bold, italicize, underline**), and color. • Use **Alignment** tools to format text (**left, right, center, justify**). • Format text by using **Bullets and Numbering**. • Insert pictures from **Clipart Gallery** and from **File** • Use the **Slide Sorter view** to organize (change sequence) and edit presentation. • Students will demonstrate understanding of slide symmetry. Students will demonstrate understanding of balancing colors and making information easy to view.	• Students will use iPiccy.com to create a graphic for their presentation. • Students will review the basic elements of the Google Presentation software. • Students will use Google Presentations to make a presentation for a science or social studies topic.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys
Topic 6		

Using iLife for Creating *(Creativity and Innovation)*		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

•Students will be able to use a digital camera to take a picture. •Students will be able to import a picture into photo editing program – iPhoto. • Students will be able to edit the picture. ➢➢ crop picture ➢➢ enhance picture colors ➢➢ remove red-eye ➢➢ add an effect to picture • Students will be able to use a picture to create a card •Students will create text document that utilizes this picture.	• Students will use Photo Booth to take a picture of themselves. •Students will create greeting card in iPhoto and use their picture in the card.	• • Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

Topic 7
Using Scratch to Create Animations
(Critical Thinking, Problem Solving and Decision Making)

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks
• Students will learn the vocabulary of the program scratch • Students will be introduced to the various kinds of control items that can be used. • Students will be able to identify the difference between a script and a block. •Students will be introduced to the concept of loops, in the form of a Forever block. •Students will use x y coordinates to position sprites. • Students will use green flags in script to become introduced to if then statements.	• Welcome to Scratch • Using Blocks • Scratch Practice – Follow the directions to make a simple animation • Time to create your own scratch project	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

• Students will use pre-writing to explore conceptualizing an idea and then determining how to program the computer to create the idea.		

Topic 8
Let's Create a Newsletter Using Google Docs!
(Communication and Collaboration)
(Research and Information Literacy)

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks
•Students will use a teachercreated template. • Students will insert pictures from Clipart Gallery and from File (e.g. My Pictures, network folder, digital camera, scanner, or other source) •Students will use Alignment tools to format text (left, right, center, justify). • Students will Change font size, type, style (bold, italicize, underline), and color •Students will move and resize clipart and or image, selecting Format Picture, clicking the Layout tab, and choosing the appropriate Wrapping Style or using the Picture Toolbar.	• Students will use Google Docs to create a newsletter from a template. (See description of project in Moodle)	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys
Teacher Notes:		

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Curriculum Development Resources

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Learning Activity Types – William And Mary University - TPACK

https://sites.google.com/a/fpks.org/toolsforteachers/tools-to-enhance-instruction

http://www.commonsensemedia.org/educators/curriculum/k-5

http://www.typingweb.com/tutor/courses/

Grade 4 Topics

Topic 1

The Basics, Things to Remember

(Technology Operations and Concepts)

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks

Students: • Demonstrate touch typing techniques for alpha, numeric and punctuation, grade level specific • Develop use of basic terms including network drives, fonts, cut, copy, paste, open and close, save, maximize, minimize, highlight, menu, favorites, links, toolbar, programs, applications, icon, graphic, message box, white space, data projectors, cursor, exit, double click and navigate • Use correct terminology for basic parts of a computer •Introduce Network accounts, Log-on/off, save to, retrieve files from, organizing files • Introduce Google Drive Logon procedures and basic file creation capabilities.	• Introduction to touch-typing and use of software Typing web. • Identify basic features of the computers in this building and compare and contrast similarities and differences of the computers from previous school. • Utilize a graphic organizer that shows the structure of the local computer in relation to a network account and to web account (Google Drive)	• Timed typing tests five times during the year. (Beginning of school to create benchmark and then at the end of each MP) • Vocabulary assessment on terminology. • Student demonstration of ability to log on to network drive and save and retrieve files. (Teacher Observation) • Student demonstration of ability to log on to Google Drive and save and retrieve files. (Teacher Observation)
Topic 2		

Internet Safety *(Digital Citizenship)*		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

• Student will demonstrate an understanding of the rules when accessing FP computers. • Students know not to use other's work. • Students Acquire information that is in the form of text, graphics, audio, and video and save information for use in student projects consistent with copyright issues, with teacher assistance. • Use proper computer etiquette (clean hands, no banging keyboard or mouse, respect equipment, hands stay in your space, no cords in mouth) • Students will demonstrate proper etiquette when using the Internet •Students will practice simple searches • Students will practice simple search strategies used to acquire electronic information. Including, but not limited to: >Show evidence of the use of keywords for searching through clip art >Show evidence for the use of keywords for searching	• Discussion of Internet safety and the FP Acceptable user Agreement. • Watch BrainPop video on Copyright and pagiarism. • Keep it Private Activity • Cyber Pigs (http://mediasmarts.ca/sites/default/files/games/privacy_playground/flash/privacy_playground_en/start.html) What makes a good Search? – See BrainPop videos.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

online library catalog >Show evidence of the use of keywords for internet research >Identify and show evidences of the use of websites that can provide valid information (i.e. Encyclopedia Britannica vs. Wikipedia) •Students will practice cyber safety and ethics when using the Internet		
Topic 3 **Basic Publishing** *(Technology Operations and Concepts)*		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

• Use proper keyboarding techniques such as correct hand and body positions and smooth and rhythmic keystroke patterns as grade-level appropriate >Sit properly at the computer (flat on bottom, back to back of chair); Use two hands at the keyboard, left and right side keys, thumbs on space bar >Has experience with keyboarding through online help, software on computer >Always reinforce the Home Row Keys •Demonstrate touch keyboarding techniques for operating the alphabetic, numeric, punctuation, and symbol keys as grade-level	• Continue work on Typing Web program to practice typing skills • All activities that include typing should have students following proper posture, hand placement and fingering of keys. •Complete the "The case of the Snack Shack" using Google Drive.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

appropriate >Use shift key to produce capitals >Use numeric keys >Use all punctuation symbols >Use backspace key to delete space bar to space, and enter key to go to another line >One space between words and sentences. >Use arrow keys to navigate page • Use font attributes, color, white space, and graphics to ensure that products are appropriate For the defined audience. >Discuss importance of the size and style of the font (crazy fonts are hard to read) >Color of font (light on light background is hard to read) >Pictures added to a document should not be too small or too big and should be appropriate to the topic >Create and print a word document >Format a document using font, color, size, style, Word Art, white space, vertical and horizontal centering •Use font attributes, color, white space, and graphics to ensure that products are		

appropriate for the communication media		

including multimedia screen displays and printed materials. >Make sure fonts, spacing and pictures are the correct size and are easy to read for print or for screen viewing >Discuss picking colors that stand out against the background >If they are making a presentation they should make sure it is readable on a projector >discuss picking colors and simple fonts that are presentation friendly • Create a new document or open an existing one on the network folder •Use Alignment tools to format text (left, right, center, justify).		
Topic 4 **Spreadsheets and Graphs** *(Technology Operations and Concepts)*		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

• Identify and locate **cells, rows**, and **columns.** • Create a spreadsheet by entering text, and values (numeric) • Create formula to calculate a value (tax) • Change the font size, type, style (**bold, italicize, underline**), and color.	• Students will enter data into a pre-created spreadsheet with a chart. They will watch the chart change as their data is entered. •Watch video on how to create a spreadsheet and add formula to calculate taxes "Let's Add it all up" • Create a spreadsheet in Google Drive that demonstrates information from science or social studies class.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

• Use **Chart Wizard** to create charts/graphs as grade level and task appropriate to express ideas and solve problems**.** • Interpret the graph, what do the numbers "say" by writing an essay describing the meaning of the graph.		
Topic 5 **Multimedia Presentations** *(Creativity and Innovation)*		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

• Add text to slides. •Insert multiple New Slides. •Change font size, type, style (bold, italicize, underline), and color. • Use Alignment tools to format text (left, right, center, justify). • Format text by using Bullets and Numbering. • Insert pictures from Clipart Gallery and from File • Students will create links to slides in the presentation that are linear. • Use the Slide **Sorter view** to organize (change sequence) and edit presentation. • Students will demonstrate understanding of slide symmetry. Students will demonstrate	• Students will use iPiccy.com to create a graphic for their presentation. • Students will review the basic elements of the Google Presentation software. • Students will use Google Presentations to make a presentation for a science or social studies topic.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys
understanding of balancing colors and making information easy to view.		

Topic 6 **Using iLife for Creating** *(Creativity and Innovation)*		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

•Students will be able to use a digital camera to take a picture. •Students will be able to import a picture into photo editing program – iPhoto. • Students will be able to edit the picture. ➢➢ crop picture ➢➢ enhance picture colors ➢➢ remove red-eye ➢➢ add an effect to picture • Students will be able to use a picture to create a card •Students will be create text document that utilizes this picture.	• Students will use Photo Booth and a digital camera to take a pictures •Students will create calendar in iPhoto and use different pictures in each month of the calendar.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

Topic 7
Using Scratch to Create Animations
(Critical Thinking, Problem Solving and Decision Making)

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks
• Students will learn the vocabulary of the program scratch • Students will be introduced to the various kinds of control items that can be used. • Students will be able to identify the difference between a script and a block. •Students will be introduced to the concept of loops, in the	• Welcome to Scratch • Using Blocks • Scratch Practice – Follow the directions to make a simple animation • Time to create your own scratch project	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

form of a Forever block. •Students will use x y coordinates to position sprites. • Students will use green flags in script to become introduced to if then statements. • Students will use pre-writing and explore conceptualizing an idea and then determining how to program the computer to create the idea.		

Topic 8
Let's Create a Newsletter Using Google Docs!
(Communication and Collaboration)
(Research and Information Literacy)

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks
•Students will use a teachercreated template. • Students will insert pictures from Clipart Gallery and from File (e.g. My Pictures, network folder, digital camera, scanner, or other source) •Students will use Alignment tools to format text (left, right, center, justify). • Students will Change font size, type, style (bold, italicize, underline), and color •Students will move and resize clipart and or images, selecting Format Picture, clicking the Layout tab, and choosing the appropriate Wrapping Style or using the Picture Toolbar.	• Students will use Google Docs to create a travel brochure from a template. (See description of project in Moodle)	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Teacher Notes:

Curriculum Development Resources

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https://sites.google.com/a/fpks.org/toolsforteachers/tools-to-enhance-instruction

http://www.commonsensemedia.org/educators/curriculum/k-5

http://www.typingweb.com/tutor/courses/

Grade 5 Topics

Topic 1
The Basics, Things to Remember
Technology Glossary, Pretests
(Technology Operations and Concepts)

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks

Students: • Demonstrate touch typing techniques for alpha, numeric and punctuation, grade level specific • Develop use of basic terms expanding on previous years words • Use correct terminology for basic parts of a computer •ReviewNetwork accounts, Log-on/off, save to, retrieve files from, organizing files • Review Google Drive Log-on procedures and basic file creation capabilities. • Organize folders on Drive for each class	• Introduction to touchtyping and use of software Typing web. • Identify basic features of the computers in this building and compare and contrast similarities and differences of the computers from previous school. • Utilize a graphic organizer that shows the structure of the local computer in relation to a network account and to web account (Google Drive)	• Timed typing tests five times during the year. (Beginning of school to create benchmark and then at the end of each MP) • Vocabulary assessment on terminology. • Student demonstration of ability to log on to network drive and save and retrieve files. (Teacher Observation) • Student demonstration of ability to log on to Google Drive and save and retrieve files. (Teacher Observation)

Topic 2 **Basic Publishing** *(Technology Operations and Concepts)*		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

• Use proper keyboarding techniques such as correct hand and body positions and smooth and rhythmic keystroke patterns as gradelevel appropriate >Sit properly at the computer (flat on bottom, back to back of chair); Use two hands at the keyboard, left and right side keys, thumbs on space bar >Has experience with keyboarding through online help, software on computer >Always reinforce the Home Row Keys •Demonstrate touch keyboarding techniques for operating the alphabetic, numeric, punctuation, and symbol keys as grade-level appropriate >Use shift key to produce capitals >Use numeric keys >Use all punctuation symbols >Use backspace key to delete space bar to space, and enter key to go to another line >One space between words and sentences. >Use arrow keys to navigate	• Continue work on Typing Web program to practice typing skills • All activities that include typing should have students following proper posture, hand placement and fingering of keys. •Complete the "Rewrite this Masterpiece" using Pages from iWorks '09	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

page • Use font attributes, color, white space, and graphics to ensure that products are appropriate For the defined audience. >Discuss importance of the size and style of the font (crazy fonts are hard to read) >Color of font (light on light background is hard to read) >Pictures added to a document should not be too small or too big and should be appropriate to the topic >Create and print a word document >Format a document using font, color, size, style, Word Art, white space, vertical and horizontal centering •Use font attributes, color, white space, and graphics to ensure that products are appropriate for the communication media including multimedia screen displays and printed materials. >Make sure fonts, spacing and pictures are the correct size and are easy to read for print or for screen viewing >Discuss picking colors that stand out against the background		

>If they are making a presentation they should		

make sure it is readable on a projector >discuss picking colors and simple fonts that are presentation friendly • Create a new document or open an existing one on the network folder •Use Alignment tools to format text (left, right, center, justify).		
Topic 3 **Internet Safety and Etiquette** *(Digital Citizenship)*		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

• Student will demonstrate an understanding of the rules when accessing FP computers. • Students know not to use other's work. • Students Acquire information that is in the form of text, graphics, audio, and video and save information for use in student projects consistent with copyright issues, with teacher assistance. • Use proper computer etiquette (clean hands, no banging keyboard or mouse, respect equipment, hands stay in your space, no cords in mouth) • Students will demonstrate proper etiquette when using	• Discussion of Internet safety and the FP Acceptable user Agreement. • Safety and Security Activity • Citizens of Cyberspace Activity • Surfing the Right way Activity	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

the Internet •Students will practice simple searches • Students will practice simple search strategies used to acquire electronic information. Including, but not limited to: >Show evidence of the use of keywords for searching through clip art >Show evidence for the use of keywords for searching online library catalog >Show evidence of the use of keywords for internet research >Identify and show evidences of the use of websites that can provide valid information (i.e. Encyclopedia Britannica vs. Wikipedia) •Students will practice cyber safety and ethics when using the Internet		
Topic 4 **Spreadsheets and Graphs** *(Technology Operations and Concepts)*		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

• Identify and locate **cells, rows**, and **columns.** • Create a spreadsheet by entering text, and values	• Students will enter data into a pre-created spreadsheet with a chart. They will watch the chart change as their data is entered. •Watch video on how to create	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation
(numeric) • Create formula to calculate a value (tax) • Change the font size, type, style (**bold, italicize, underline**), and color. • Use **Chart Wizard** to create charts/graphs as grade level and task appropriate to express ideas and solve problems**.** • Interpret the graph, what do the numbers "say"	a spreadsheet and add formula to calculate taxes "Let's Do some online Shopping" • Create a spreadsheet in Numbers that demonstrates information from science or social studies class.	• Surveys
Topic 5 **Multimedia Presentations** *(Technology Operations and Concepts)* *(Creativity and Innovation)* *(Research and Information Literacy)*		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

• Add text to slides. •Insert multiple New Slides. •Change font size, type, style (bold, italicize, underline), and color. • Use Alignment tools to format text (left, right, center, justify). • Format text by using Bullets and Numbering from the Formatting Inspector. • Change themes and backgrounds using the Inspector • Insert pictures from Clipart	• Students will use iPiccy.com to create a graphic for their presentation. • Students will review the basic elements of the Keynote Presentation software. • Students will use Keynote Presentations to make a presentation for a science or social studies topic.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

Gallery and from File • Students will use the Mask tool to show only a portion of a picture. • Students will create links to slides in the presentation that are linear. • Use the Slide **Sorter view** to organize (change sequence) and edit presentation. • Students will demonstrate understanding of slide symmetry. Students will demonstrate understanding of balancing colors and making information easy to view.		
Topic 6 **Using iLife for Creating** *(Creativity and Innovation)*		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

• Students will use a image software package to organize pictures into an album. • Students will use a movie making software to stitch pictures together for a desired length of time. • Students will import pictures from image software to movie software. •Students will arrange pictures in an order that tells a story. • Students will adjust the length of time a picture is on the screen.	Students will use Google Docs, iPhoto and iMovie to create an All About Me video. See Moodle for directions, and examples.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

• Students will use the Ken Burns effect to provide motion to still images. •Students will add text to the video. • Students will add transitions to video. •Students will create a voice track to the video • Students will use the media of video as a communication tool.		
Topic 7 Online Learning *(Technology Operations and Concepts)*		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

• Students will participate in an online discussion forum. • Students will respond to a prompt. • Students will use proper etiquette. • Students will demonstrate the way to disagree with another student to is positive and appropriate. • Students will respond to other students as well as the teacher. • Students will manage time to accomplish all tasks. • Students will read and follow directions provided in the online activity. •Students will hand in their project in a digital manner. •Student will use online calendar to see tasks to be accomplished and due dates. •Students will request assistance when, when needed form classmates and teacher through online request.	•Students will use the Moodle online course management system as the environment which they will carry out the unit on creating a game in Scratch.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

Topic 8 **Lets Scratch –Programming and Problem Solving** (Create Your Own Game) *(Critical Thinking, Problem Solving and Decision Making)*		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

• Students will learn the vocabulary of the program scratch • Students will be introduced to the various kinds of control items that can be used. • Students will be able to identify the difference between a script and a block. •Students will be introduced to the concept of loops, in the form of a Forever block. •Students will use x y coordinates to position sprites. • Students will use green flags in script to become introduced to if then statements. • Students will use pre-writing and explore conceptualizing an idea and then determining how to program the computer to create the idea.	• Students will be creating their own game. The first activity will to take a game that has already been created and modifying it to perform in a different way. •After reviewing the many games others have created students will use the information they have learned in previous years about how to perform simple tasks and put that to work in a more complex environment that could be considered a game.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

Teacher Notes:

Curriculum Development Resources

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http://www.commonsensemedia.org/educators/curriculum/k-5

http://www.typingweb.com/tutor/courses/

LESSON REFLECTION

Reflect on the lesson you have developed and rate the degree to which the lesson ***Strongly, Moderately*** or ***Weakly*** meets the criteria below.

Lesson Activities:	**Strongly**	**Moderately**	**Weakly**
Are challenging and require higher order thinking and problem solving skills			
Allow for student choice			
Provide scaffolding for acquiring targeted knowledge/skills			
Integrate global perspectives			
Integrate 21st century skills			
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills			
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills			
Are varied to address different student learning styles and preferences			
Are differentiated based on student needs			
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process			
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives			
Provide opportunities for student reflection and selfassessment			
Provide data to inform and adjust instruction to better meet the varying needs of learners			

Unit Overview Template

Content Area: Technology

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Title: Tech Basics

Target Course/Grade Level: 6-8

Unit Summary

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. Students demonstrate a sound understanding of technology concepts, systems and operations. Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology. 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. Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior. Students apply digital tools to gather, evaluate, and use information. Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

Primary interdisciplinary connections: Language Arts, Science, Social Studies

21st Century Standards

9.1 Personal Finance Literacy

Students will learn important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.

9.2 Career Awareness, Exploration and Preparation

Students will explore the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements

9.3 Career and Technical Education

Arts, A/V Technology, & Communications Career Cluster

Information Technology Career Cluster

All students who complete a career and technical education program will acquire academic and technical skills for careers in emerging and established professions that lead to technical skill proficiency, credentials, certificates, licenses, and/or degrees. (For descriptions of the 16 career clusters, see the Career Clusters Table.)

Career Ready Practices

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

CRP2. Apply appropriate academic and technical skills.
CRP3. Attend to personal health and financial well-being.
CRP4. Communicate clearly and effectively and with reason.
CRP5. Consider the environmental, social and economic impacts of decisions.
CRP6. Demonstrate creativity and innovation.
CRP7. Employ valid and reliable research strategies.
CRP8. Utilize critical thinkin to make sense of problems and persevere in solving them.
CRP9. Model integrity, ethical leadership and effective management.
CRP10. Plan education and career paths aligned to personal goals.
CRP11. Use technology to enhance productivity.
CRP12. Work productively in teams while using cultural global competence.

21st century skills:

Information Literacy

Access and Evaluate Information

- Access information efficiently (time) and effectively (sources)
- Evaluate information critically and competently

Use and Manage Information

- Use information accurately and creatively for the issue or problem at hand
- Manage the flow of information from a wide variety of sources
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information

Media Literacy

Analyze Media

- Understand both how and why media messages are constructed, and for what purposes
- Examine how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of media

Create Media Products

- Understand and utilize the most appropriate media creation tools, characteristics and conventions
- Understand and effectively utilize the most appropriate expressions and interpretations in diverse, multi-cultural environments

ICT (Information, Communications & Technology) Literacy

Apply Technology Effectively

- Use technology as a tool to research, organize, evaluate and communicate information
- Use digital technologies (computers, PDAs, media players, GPS, etc.), communication/networking tools and social networks appropriately to access, manage, integrate, evaluate and create information to successfully function in a knowledge economy
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Unit Rationale

At a time when information acquisition is at everyone's fingertips, it is imperative to provide youngsters with a framework that enables them to cipher through and efficiently synthesize data into a useable format.

With a teaming approach that unites a variety of disciplines, students can gain a sense of the methods and medium available for project development. The importance of aesthetics will be fostered throughout all phases of these activities. Additionally, an awareness of and appreciation for personal differences will be nurtured. Relating these activities to existing academic curricula will help to bridge the gap between the concrete and the abstract application. Rubrics will be set in place to monitor the outcomes of the set forth goals and objectives. Command of these abilities will help to MAP out a course for success in whatever endeavors these youngsters encounter in the work world and beyond.

Learning Targets

Standards

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.

A. Technology Operations and Concepts
B. Creativity and Innovation
C. Communication and Collaboration
D. Digital Citizenship
E. Research and Information Fluency
F. Critical Thinking, Problem Solving, and Decision-Making

8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: 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.

A. The Nature of Technology: Creativity and Innovation
B. Technology and Society
C. Design
D. Abilities for a Technological World
E. Computational Thinking: Programming

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Content Statements

- Understand and use technology systems.The use of digital tools and media-rich resources enhances creativity and the construction of knowledge.
- Select and use applications effectively and productively.
- Apply existing knowledge to generate new ideas, products, or processes.
- Create original works as a means of personal or group expression.
- Information accessed using digital tools assists in generating solutions and making decisions.
- Develop cultural understanding and global awareness by engaging with learners of other cultures.
- Communicate information and ideas to multiple audiences using a variety of media and formats.
- Advocate and practice safe, legal, and responsible use of information and technology.
- Demonstrate personal responsibility for lifelong learning.

- Exhibit leadership for digital citizenship.
- 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.
- 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.

CPI #	Cumulative Progress Indicator (CPI)
8.1.8.A.1	Demonstrate knowledge of a real world problem using digital tools.
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.

8.1.8.B.1	Synthesize and publish information about a local or global issue or event (ex. telecollaborative project, blog, school web).
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.
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.
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.
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.
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.

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.

Unit Essential Questions	**Unit Enduring Understandings**
• How are digital tools used to access, manage, evaluate, and synthesize information to solve problems individually and collaboratively? • How are digital tools used to create and communicate knowledge?	• The use of technology and digital tools requires knowledge and appropriate use of operations and related applications. • The use of digital tools and media-rich resources enhances creativity and the construction of knowledge. • Digital tools and environments support the learning process and foster collaboration in solving local or global issues and problems. • Technological advancements create societal concerns regarding the practice of safe, legal, and ethical behaviors. • Effective use of digital tools assists in gathering and managing information. • Information accessed using digital tools assists in generating solutions and making decisions.

Unit Learning Targets
Students will be able to ...

- Grade 6 ○ Utilize professional applications to create documents, spreadsheets, and presentations
  - ○ Publish/present persuasive views on researched topics ○ Use digital tools to collect and analyze data to solve problems ○ Generate multimedia rich documents for integration in published works ○ Utilize problem solving skills and creative innovation to create animation content constructed from program scripting.
  - ○ Develop self-directed learning behaviors via online learning community to view content, participate in online discussion, collaborate with peers, upload assignments, and take online assessments. (Moodle)
  - ○ Understand the need for, and respect copyrights ○ Properly cite sources of information
  - ○ Evaluate the accuracy of information found on the internet
  - ○ Research a topic and publish a report using digital tools for all steps in the process ○ Adhere to district acceptable use policy ○
- Grade 7 ○ Utilize data analysis tools to create personal finance tools
  - ○ Utilize multimedia tools to create student generated content for use in published

forum. (video, audio, animation, imagery)

- Understand the principles of copyrights ○ Cite sources appropriately
- Utilize problem solving skills and creative innovation to create interactive content constructed from program scripting.
- Construct online presence that utilize multimedia content, researched topics, and demonstrates information fluency on computer ethics and global issues.
- Develop self-directed learning behaviors via online learning community to view content, participate in online discussion, collaborate with peers, upload assignments, and take online assessments. (Moodle)
- Understand the need for, and respect copyrights ○ Properly cite sources of information
- Evaluate the accuracy of information found on the internet
- Research a topic and publish a report using digital tools for all steps in the process ○ Adhere to district acceptable use policy

- Grade 8
  - Construct online business presence that generates multimedia content, researched topics, and demonstrates information fluency on use of technology in workplace readiness scenarios.
    Generate student created multimedia to support and demonstrate professional skills in the workplace.
  - Manipulate and create and use digital images via a professional applications and software
  - Manipulate and create desktop publishing products via a professional applications and software
  - Develop self-directed learning behaviors via online learning community to view content, participate in online discussion, collaborate with peers, upload assignments, and take online assessments. (Moodle)
  - Adhere to district acceptable use policy

- All Grades ○ Establish, outline, and plan projects
  - ○ Locate and extract useful information from appropriate project resources
  - ○ Utilize online database tools to locate research quality resources ○ Incorporate information into the project without plagiarizing ○ Locate royalty-free, Creative Commons licensed content (Free-use media) ○ Appropriately cite all sources ○ Keyboard efficiently and effectively
  - ○ Create a spreadsheet and manipulate the data contained within it
  - ○ Use the internet ethically, effectively, and efficiently to research and communicate ○ Adhere to district acceptable use policy ○ Use tools safely and effectively
  - ○ Create digital products that are artistically designed ○ Use technology to solve problems

Evidence of Learning

Summative Assessment (end of year)

- **Post assessment**
- **Questionnaire**
- **Student created digital portfolio**

Equipment needed: Computers with headphones, Internet access, digital camera, camcorder, microphones, green screen, drawing tablets

Teacher Resources: Microsoft Ofiice Suite, Google Apps, iLife Suite, Scratch software, Adobe CS3 Suite, Google Sketchup 8, iWorks

Formative Assessments

- Pre-test •
- Teacher observation •
- Project completion/rubrics •
- Grade 8– end-of-year assessment (learning.com)

Grade 6 Topics

Topic	Timeframe
Topic 1 Class Introduction (Technology Operations and Concepts)	http://eschool.fpks.org/moodle/course/view.php?id=21

Topic 2 Professional Suite Overview (Technology Operations and Concepts Creativity and Innovation Research and Information Literacy Critical Thinking, Problem Solving, and Decision-Making)	http://eschool.fpks.org/moodle/course/view.php?id=21
Topic 3 Advanced Presentation Making (Technology Operations and Concepts Creativity and Innovation Research and Information Literacy Digital Citizenship Critical Thinking, Problem Solving, and Decision-Making)	http://eschool.fpks.org/moodle/course/view.php?id=21
Topic 4 Video Presentations (Technology Operations and Concepts Creativity and Innovation Communication and Collaboration Digital Citizenship) Research and Information Literacy Critical Thinking, Problem Solving, and Decision-Making)	http://eschool.fpks.org/moodle/course/view.php?id=21
Topic 5 **Basic Programming – Scratch**	http://eschool.fpks.org/moodle/course/view.php?id=21
(Technology Operations and Concepts Creativity and Innovation Communication and Collaboration Digital Citizenship Research and Information Literacy Critical Thinking, Problem Solving, and Decision-Making)	
Topic 6 **Wrapping it Up**	http://eschool.fpks.org/moodle/course/view.php?id=21
Teacher Notes:	

Curriculum Development Resources
Click the links below to access additional resources used to design this unit:

ISTE NET-S Implementation Wiki
Partnership for 21st Century Skills

Learning Activity Types – William And Mary University - TPACK

https://sites.google.com/a/fpks.org/toolsforteachers/tools-to-enhance-instruction

http://www.typingweb.com/tutor/courses/

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Grade 6 Topics		
Topic 1 **Class Introduction** (Technology Operations and Concepts)		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**
•Students will be able to login and maneuver a few areas in Moodle (webpages, Forums, chats, and quizzes) •Students will be able to work independently using the teacher as a coach and resource. •Students will review and be familiar with Tech Basics 6 vocabulary	• Students will perform a "Let's Get Organized" activity designed to review computer terminology and organize both their network account folders and their Google Drive. •Students will perform a "Wow, That is a Lot of Reading. Why?" Activity to help the student practice how they will digest content and receive project information for the course.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys
Topic 2 **Professional Suite Overview** (Technology Operations and Concepts Creativity and Innovation Research and Information Literacy Critical Thinking, Problem Solving, and Decision-Making)		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

• Using Microsoft Word, insert and format text boxes •Insert pictures from file. • Align text box and graphics using formatting functions. •Create a poster with graphics, Text boxes and clipart to communicate a message. • Use alignment tool to format text in a variety of ways. • Layer objects so that objects can be on top of each other. •Insert data into a spreadsheet (MS Excel) • Insert Labels into a spreadsheet. • Format information by changing row heights and column widths, font, size, style and color. •Insert a formula that calculates the sum of the numbers	All assignments, requirements, teaching content and rubrics can be found online in this Moodle course for this class. Students will work independently on each activity finishing at their own pace. Students will hand in their finished project to the teacher through the website. • Introductory activity using images and text boxes in Microsoft Word. •Stand Up for a Cause! – Poster project to communicate a message using Microsoft Word. •So How many Commercials were There? – Spreadsheet activity	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

•Change cell background color. • Create a chart from the data in the spreadsheet. • Students will create a presentation using PowerPoint • The presentation will have multiple slides with a common theme. • The presentation will have slides that contain pictures and charts, animations and a video clip. • The presentation will have text that serves as a titles and is bulleted to make points. Each slide should display unique information from the previous slides and the information should be presented in a unique manner from previous slides.		
Topic 3 Advanced Presentation Making (Technology Operations and Concepts Creativity and Innovation Research and Information Literacy Digital Citizenship Critical Thinking, Problem Solving, and Decision-Making)		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

• Students will create a presentation using PowerPoint • The presentation will have multiple slides with a common theme. • The presentation will have	All assignments, requirements, teaching content and rubrics can be found online in this Moodle course for this class. Students will work independently on their presentation finishing at their own pace. Students will present their finished product to the	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys
slides that contain pictures and charts, animations and a video clip. • The presentation will have text that serves as a title and is bulleted to make points. Each slide should display unique information from the previous slides and the information should be presented in a unique manner from previous slides. •Students will create navigation in the presentation to allow non-linear through out the project.	class. PowerPoint presentation on data Collected in previous spreadsheet activity.	

Topic 4

Video Presentations

(Technology Operations and Concepts
Creativity and Innovation
Communication and Collaboration Digital Citizenship)
Research and Information Literacy
Critical Thinking, Problem Solving, and Decision-Making)

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks

• Students will review important Internet safety terms and their impact. • Students will design an approach to protect personal information on social network sites. • Students will identify Internet theft/ Spoofing/Pharming. • Students will define and compare/contrast terms such as: Internet forum,	• Students will research and define key terms involved with Internet safety. • Students will write, film, and edit a video presentation on Internet safety with 1-2 partners following the guidelines posted on the Moodle course for this class.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys
social network, blogging, identity theft, netiquette. • Students will create a movie script on their message to inform an audience about Internet safety. • Students will demonstrate basic filming concepts: identify the set, lighting from behind camera, Pre/Post filming, camera angles, and taking multiple takes in a movie project. • Students will use video editing skill such as: Importing, clip trimming, titling, splitting clips, transitions, sound tracks and sound effects.		

• Utilize advanced editing tools to create and demonstrate information regarding Internet safety in a video project.		

Topic 5 **Basic Programming – Scratch** (Technology Operations and Concepts Creativity and Innovation Communication and Collaboration Digital Citizenship Research and Information Literacy Critical Thinking, Problem Solving, and Decision-Making)		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**
• Students will learn the vocabulary of the program	• Creating a short animation using a basic	• Rubrics • Checklist

scratch • Students will be introduced to the various kinds of control items that can be used. • Students will be able to identify the difference between a script and a block. •Students will be introduced to the concept of loops, in the form of a Forever block. •Students will use x y coordinates to position sprites. • Students will use green flags in script to become introduced to if then statements. • Students will use problem solving skills to explore conceptualizing an idea and then determining how to program the computer to create the idea. • Students will create custom sprites that are made up of multiple images to give illusion of motion. • Students will attach audio files to the action of a script to demonstrate dialogue within the animation.	programming application to have a character tell a joke	• Projects • Performance tasks • Self-evaluation • Surveys
Topic 6 **Wrapping it Up (Typing Proficiency)** *(Digital Citizenship)*		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

• The student will demonstrate correct keyboarding techniques while increasing speed and maintaining accuracy. • Key at a minimum speed of 27 words per minute (WPM) on at	• Students will use the program Typing web to practice their keyboarding skills. • Students will take a pretest and posttest benchmark to assess speed and accuracy using the qwerty keyboard.	• Rubrics • Checklist • Performance tasks • Self-evaluation • Surveys
least 3 one- or two-minute timings. • Key at 2 or fewer errors per minute. • Key without using the backspace/delete key on timings. • On the 10-key pad, the student will demonstrate correct techniques in keying the numbers, decimal, enter, and arithmetic keys. • Demonstrate correct fingering for each number on the key paid. • Demonstrate correct fingering for decimal and enter keys. • Demonstrate correct fingering the arithmetic keys.	• Students will take a pretest and posttest benchmark to assess speed and accuracy on the 10 key keypad. (Ten-Key Test)	

Grade 7 Topics	
Topic 1 **Technology for Life** (Technology Operations and Concepts)	http://eschool.fpks.org/moodle/course/view.php?id=20
Topic 2 **Ethics/Media Literacy** (Technology Operations and Concepts Communication and Collaboration Digital Citizenship Research and Information Literacy)	http://eschool.fpks.org/moodle/course/view.php?id=20
Topic 3 **Keeping It Legal** (Technology Operations and Concepts Communication and Collaboration Digital Citizenship Research and Information Literacy)	http://eschool.fpks.org/moodle/course/view.php?id=20

Topic 4 **Programming Basics** (Technology Operations and Concepts Creativity and Innovation Communication and Collaboration Digital Citizenship Critical Thinking, Problem Solving, and Decision-Making)	http://eschool.fpks.org/moodle/course/view.php?id=20
Topic 5 **Building Our Website** (Technology Operations and Concepts Creativity and Innovation	http://eschool.fpks.org/moodle/course/view.php?id=20
Communication and Collaboration Digital Citizenship Research and Information Literacy Critical Thinking, Problem Solving, and Decision-Making)	
Topic 6 **End of the Journey** Technology Operations and Concepts Critical Thinking, Problem Solving, and Decision-Making	http://eschool.fpks.org/moodle/course/view.php?id=20
Teacher Notes:	

Curriculum Development Resources
Click the links below to access additional resources used to design this unit:

ISTE NET-S Implementation Wiki
Partnership for 21st Century Skills

Learning Activity Types – William And Mary University - TPACK

https://sites.google.com/a/fpks.org/toolsforteachers/tools-to-enhance-instruction

http://www.typingweb.com/tutor/courses/

Grade 7 Topics
Topic 1 **Technology for Life** (Technology Operations and Concepts)

Saddle River Public Schools
Technology/21st Century Life and Careers
Saddle River, NJ

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks
•Students will be able to login and maneuver a few areas in Moodle (webpages, Forums, chats, and quizzes) •Students will be able to work independently using the teacher as a coach and resource. •Students will review and be familiar with Tech Basics 6 vocabulary	• Students are given a problem of calculating a weekly budget based on a job and the hourly wage they earn along with what kinds of activities they will be able to afford. Students are to image they are in high school students and able to drive cars. The task is to have students create a spreadsheet that calculates the weekly budget	• Timed typing tests five times during the year. (Beginning of school to create benchmark and then at the end of each MP) • Vocabulary assessment on terminology. • Student demonstration of ability to log on to network drive and save and retrieve files. (Teacher Observation)
• Students will create individual tables of data, labels and formulas to represent separate calculations • Students will be able to create a master table that displays the results from other tables. • Students will be able to use a formula to calculate cell data • Students will be able to format cell content font, size, style, alignment. •Students will be able to format cell background and border. • Students will be able to create a line chart and bar chart from data in a table.	based on the 5-8 expenses the students may have. They then have an understanding what they can and cannot afford. The students create a second spreadsheet that uses and left over money from the budget and create a savings plan for a large purchase. The students create a line chart and can visually see how long it will take to accomplish their goal.	• Student demonstration of ability to log on to Google Drive and save and retrieve files. (Teacher Observation)
Topic 2 **Ethics/Media Literacy** (Technology Operations and Concepts Communication and Collaboration Digital Citizenship		

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks
• Students will identify the dangers of falsely posting information to the Internet. • Students will research some basic questions about advertisers for an event • Students will identify the purpose for advertising. • Students will define bias as it relates to advertising. • Students will analyze	• Students will research and perform informative activities that outline the guidelines for how to act ethically with others information and how to recognize the intentions of those who post commercial based material online or on TV. Students will use this information in other projects.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

commercials identifying techniques that are being used to influence the viewing audience. • Students will identify the benefactor of commercial messages. •Students will analyze commercials for credibility, identifying fact verse opinion. •Students will identify best practices in fair use in media literacy. •Students will demonstrate and explain proper method for what information needs to be cited and the method by which to cite media. • Students will demonstrate a rationale identifying if information can be used.		
Topic 3 **Keeping It Legal** (Technology Operations and Concepts Communication and Collaboration Digital Citizenship Research and Information Literacy)		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

• Students will demonstrate tools that can assist in creating a proper citation of text and media. •Students will identify the 7 key items they need to locate about a piece of media used in a student document.	• Students will research and perform informative activities that outline the guidelines for how to act cite others information and how to recognize the laws for fair use. Students will use this information in other projects.	• Timed typing tests five times during the year. (Beginning of school to create benchmark and then at the end of each MP) • Vocabulary assessment on terminology. • Student demonstration of ability to log on to network drive and save and retrieve
•Students will be able to evaluate items that need to be cited and those that do not. • Students will demonstrate how to search for creative commons and royalty free images. • Students will demonstrate how to format citation for research documents.		files. (Teacher Observation) • Student demonstration of ability to log on to Google Drive and save and retrieve files. (Teacher Observation)

Topic 4
Programming Basics
(Technology Operations and Concepts
Creativity and Innovation
Communication and Collaboration
Digital Citizenship
Critical Thinking, Problem Solving, and Decision-Making)

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks

• Students will learn the vocabulary of the program scratch • Students will be introduced to the various kinds of control items that can be used. • Students will be able to identify the difference between a script and a block. •Students will be introduced to the concept of loops, in the form of a Forever block. •Students will use x y coordinates to position sprites. • Students will use green flags in script to become introduced to if then statements. • Students will use problem solving skills to explore conceptualizing an idea and then determining how to program the computer to	•Students will continue to explore the possibilities of programming by creating an animation game that informs the audience about bing media literate. Students must pre-plan the project and submit a written proposal for approval before beginning the project.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys
create the idea. • Students will create custom sprites that are made up of multiple images to give illusion of motion. • Students will attach audio files to the action of a script to demonstrate dialogue within the animation.		

Topic 5
Building Our Website
(Technology Operations and Concepts
Creativity and Innovation
Communication and Collaboration
Digital Citizenship
Research and Information Literacy
Critical Thinking, Problem Solving, and Decision-Making)

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks
•Students will design a website using a professional grade tool. • Students will be able to identify the root directory for their site. • Students will make comparisons to the text editing tools of the html editor compared to a word processing program. •Students will be able to enter a table to organize and format text on a page. • Students will store all multimedia files in a specific folder within the root folder. • Students will embed media	Students will create a 3 page website that has a Home page, media page and sources page. This website will serve as a portfolio of all the research they have done, media they have created and opinions/ understandings they now have on the topic of media literacy and ethics.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys
from root folder on the webpage. • Students will be able to embed hyperlinks on their webpages. •Students will embed media that they have created in their site. The media types include graphic and video.		

Topic 6
End of the Journey
Technology Operations and Concepts
Critical Thinking, Problem Solving, and Decision-Making

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks
Students will demonstrate eyes on copy, correct fingering, good techniques, and appropriate posture while operating the keyboard. Feet placed appropriately for balance. a. Center body to the "h" key with elbows at sides. b. Sit up straight. c. Curve fingers over the home keys. d. Keep wrists off the keyboard. e. Keep eyes on printed copy. f. Key by touch. •Students develop and improve keystroking speed and accuracy. a. Complete a program of customized drills, exercises, and timings to reinforce touch operation of the keyboard and to increase speed and accuracy. b. End of first nine weeks:	Students will use the program Typing web to practice their keyboarding skills. • Students will take a pretest and posttest benchmark to assess speed and accuracy using the qwerty keyboard.	• Timed typing tests five times during the year. (Beginning of school to create benchmark and then at the end of each MP)

Using 95% high frequency words (hfw) straight-copy material and 2 minute timed writings, key by touch at 25 wpm with 6 or fewer errors. c. End of semester: Using 90% high frequency words (hfw) straight-copy material and 2-minute timed writings, key by touch at 35 wpm with 4 or fewer errors. • Students will apply basic word processing functions using a variety of documents. a. Utilize basic functions: open, close, save, save as, and print. b. Utilize basic editing and formatting functions: copy, move, paste, font, line spacing, alignment, margins, and word wrap. c. Utilize outlines, bullets, and numbering functions.		

Grade 8 Topics	
Topic 1 Getting Started (Technology Operations and Concepts)	http://eschool.fpks.org/moodle/course/view.php?id=19
Topic 2a Freel**ance Photographer** (Technology Operations and Concepts Creativity and Innovation Communication and Collaboration Digital Citizenship Research and Information Literacy Critical Thinking, Problem Solving, and Decision-Making)	http://eschool.fpks.org/moodle/course/view.php?id=19

Topic 2b **Freelance Writer** (Technology Operations and Concepts	http://eschool.fpks.org/moodle/course/view.php?id=19
Creativity and Innovation Communication and Collaboration Digital Citizenship Research and Information Literacy Critical Thinking, Problem Solving, and Decision-Making)	
Topic 2c **Independent Musician** (Technology Operations and Concepts Creativity and Innovation Communication and Collaboration Digital Citizenship Research and Information Literacy Critical Thinking, Problem Solving, and Decision-Making)	http://eschool.fpks.org/moodle/course/view.php?id=19
Topic 2d **Video Game Creator/Programming** (Technology Operations and Concepts Creativity and Innovation Communication and Collaboration Digital Citizenship Research and Information Literacy Critical Thinking, Problem Solving, and Decision-Making)	http://eschool.fpks.org/moodle/course/view.php?id=19
Topic 3 **Assignments, Tutorials, and Tips** (Research and Information Literacy Technology Operations and Concepts)	http://eschool.fpks.org/moodle/course/view.php?id=19
Topic 4 **Rubrics/Grading**	
Teacher Notes:	
Curriculum Development Resources Click the links below to access additional resources used to design this unit:	

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

Grade 8 Topics
The topics in the 8th grade curriculum have been woven into a course that provides the learner with a choice as to what profession they will explore while meeting the requirements of the course. Each student can choose from 4 different professions that are technology intensive.

Once a child decides on the career all activities that the student completes will be accomplished with that profession in mind. The 4 professions currently are (but could change): Photographer, Architect/Interior Designer, Freelance writer, Video game Creator/programmer. The students will progress through the course at their own pace and participate in a class that utilizes a blended learning model and introduces students to a online course tool for receiving assignments, peer communication and handing in of assignments.
Topic 1 **Writing a Resume** (Technology Operations and Concepts)

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks

Using Microsoft Word, • Utilize list options (such as bulleted, numbered and multileveled lists) to outline professional careers. • Align text using formatting functions. •Create a resume with text to demonstrate professional experiences. • Use alignment tool to format text in a variety of ways. • Students will be able to submit their project electronically through an educational portal	All assignments, requirements, teaching content and rubrics can be found online in this Moodle course for this class. Students will work independently on each activity finishing at their own pace. Students will hand in their finished project to the teacher through the website. • ASSIGNMENT: RESUME – project to demonstrate professional work experience and knowledge through word processing. • Sample Resume – page used to help demonstrate resume formatting •Video Lessons – Resume Overview – a video used to demonstrate techniques for creating a resume • Grading: Resume – This page requires students to upload their resume to an educational portal. Projects will be submitted at the student's own pace in a timely fashion.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys
Topic 2 **Creating a Business Card** (Technology Operations and Concepts Communication and Collaboration		

Digital Citizenship		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

Use Photoshop to create a professional business card through the use of: • Input and modify text using a program specific interface • Various tools (move, brush, fill, gradient, shapes) to add design elements to their card • Previously designed graphics (Logos) and integrate into a cohesive design. • Students will be able to submit their project electronically through an educational portal	• ASSIGNMENT: BUSINESS CARD – this page on Moodle outlines the guidelines related to designing a professional product • Photoshop Photo Editing Lesson 1 – video reviewing basic features of Photoshop • Photoshop Photo Editing Lesson 2 – video reviewing slightly more advanced features of Photoshop • Photoshop Photo Editing Lesson 3 – video reviewing more advanced features of Photoshop • Business Card Samples – this page demonstrates well and poorly designed business cards and is used as a reference • Grading: Business Card – This page requires students to upload their finalized card design to an educational portal. Projects will be submitted at the student's own pace in a timely fashion.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys
Topic 3 **Logo Creation** (Technology Operations and Concepts Communication and Collaboration Digital Citizenship Research and Information Literacy)		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**
Students will be using Google Drive to complete this	• Project Introduction/Logo Creation – this page on Moodle	• Rubrics

assignment and will be required to: • Design multiple logos using various drawing and text options available • Use layering to organized text and graphics • Create multiple versions of a product using a design process	outlines the guidelines related to designing a professional logo. Students will use Google Drive to create their own designs in class. • Drawing Tools – this page on Moodle describes the available tool options for creating images and text. • ASSIGNMENT: Logo (Grading and Submission) This page requires students to upload their finalized logo designs by downloading them as a specific graphic type.	• Checklist • Projects • Performance tasks • Self-evaluation • Surveys
Topic 4 **Designing a Website** (Technology Operations and Concepts)		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

•Students will design a website using a professional grade tool. • Students will be able to identify the root directory for their site. • Students will make comparisons to the text editing tools of the html editor compared to a word processing program. •Students will use html code to modify text. Thus they will adjust the look of the page by making page edits using the html editor. •Students will be able to enter	Students will create a 4 page website that has a Home page, an about page, samples page and contacts page. This website will serve as a your company presence on the web of all the research they have done, media they have created, letters and resumes you have written will be housed in this site. The site will serve as your business.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys
a table to organize and format text on a page. • Students will store all multimedia files in a specific folder within the root folder. • Students will embed media from root folder on the webpage. • Students will be able to embed hyperlinks on their webpages. •Students will embed media that they have created in their site. The media types include graphic and video.		

Topic 5 **Created a Commercial (video)** (Technology Operations and Concepts Communication and Collaboration Digital Citizenship		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**
• Use a non-text product to convey a message of professionalism •Students will write a script to outline the manner by which the message will be delivered. Use iMovie to add subtitles, text, images, clips, and audio Use advanced features in iMovie such as green screen effects, picture in picture and/or split screen •Students will export the movie for use on website.	**<u>Commercial</u>** A good commercial can make or break your company. You need to get the word out, to the widest audience possible, and in the most effective way possible. Traditionally, the best medium for such a need is television. We remember funny commercials later on, we tell other people about them if we remember them, and occasionally, without realizing it, these same commercials quietly influence us to want or buy whatever they're selling.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

Topic 6 **Writing a Professional Letter** (Technology Operations and Concepts Communication and Collaboration Digital Citizenship Research and Information Literacy)		
Goals/Objectives	**Learning Activities/Instructional Strategies**	**Formative Assessment Tasks**

•Students will write a formal business letter using MS Word. •Students will ensure that there is one font used, no bolded text. • The body of the document will utilize 1.5 lines spacing. Students will use block formatting for receivers address and greeting. • Students will write the letter in a format that has at least 3 paragraphs. Opening stating the letter purpose, the body of the letter explaining the purpose in detail and a conclusion paragraph. • Students will research the proper person at the desired company to whom to send the letter.	• Letter of Submission will be created. As a professional, you will need to shop your work around to sources that will pay you for your efforts. Since you are not under contract in a formal capacity, you need to be proactive and generate interest in your work by yourself. No one is going to be looking for you, and no one is promoting you, as you are not affiliated with any publisher/organization.	• Rubrics • Checklist • Projects • Performance tasks • Self-evaluation • Surveys

Topic 7
Building Typing Proficiency
(Technology Operations and Concepts

Communication and Collaboration
Digital Citizenship
Research and Information Literacy)

Goals/Objectives	Learning Activities/Instructional Strategies	Formative Assessment Tasks

Students will demonstrate eyes on copy, correct fingering, good techniques, and appropriate posture while operating the keyboard. Feet placed appropriately for balance. g. Center body to the "h" key with elbows at sides. h. Sit up straight. i. Curve fingers over the home keys. j. Keep wrists off the keyboard. k. Keep eyes on printed copy. l. Key by touch. •Students develop and improve keystroking speed and accuracy. d. Complete a program of customized drills, exercises, and timings to reinforce touch operation of the keyboard and to increase speed and accuracy. e. End of first nine weeks: Using 95% high frequency words (hfw) straight-copy material and 2 minute timed writings, key by touch at 25 wpm with 6 or fewer errors. f. End of semester: Using 90% high frequency words (hfw) straight-copy material and 2-minute timed writings, key by touch at 35 wpm with 4 or fewer errors. • Students will apply basic word processing functions using a	Students will use the program Typing web to practice their keyboarding skills. • Students will take a pretest and posttest benchmark to assess speed and accuracy using the qwerty keyboard.	• Timed typing tests five times during the year. (Beginning of school to create benchmark and then at the end of each MP)

variety of documents. d. Utilize basic functions: open, close, save, save as, and print. e. Utilize basic editing and formatting functions: copy, move, paste, font, line spacing, alignment, margins, and word wrap. f. Utilize outlines, bullets, and numbering functions.		

LESSON REFLECTION

Reflect on the lesson you have developed and rate the degree to which the lesson ***Strongly, Moderately*** or ***Weakly*** meets the criteria below.

Lesson Activities:	**Strongly**	**Moderately**	**Weakly**
Are challenging and require higher order thinking and problem solving skills			
Allow for student choice			
Provide scaffolding for acquiring targeted knowledge/skills			
Integrate global perspectives			
Integrate 21st century skills			
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills			
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills			
Are varied to address different student learning styles and preferences			
Are differentiated based on student needs			
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process			
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives			
Provide opportunities for student reflection and selfassessment			
Provide data to inform and adjust instruction to better meet the varying needs of learners			

Saddle River Public Schools

Technology/21st Century Life and Careers

Saddle River, NJ

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