SHORE REGIONAL HIGH SCHOOL DISTRICT
A Regional Collaborative of the Communities Served by the Monmouth Beach, Oceanport, Shore Regional, and West Long Branch School Districts

Aligned to Common Core State Standards/New Jersey Core Curriculum Content Standards as Applicable

Course Title: 7th Grade Technology
Content Area: Technology
Grade Level(s): 7
Course Description: 7th Grade Technology
Curriculum Writer(s): Megan Heslin
Date Created: July 2015
Date Approved by Board of Education: October of 2015

Pacing Guide

Unit 1 Title: Technology Is a Tool
Unit 2 Title: Selecting Digital Tools
Unit 3 Title: Applying Digital Tools
Unit 4 Title: Problem-Solving With Technology

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Unit 1

Unit Summary: Students will understand that technology is constantly changing and requires continuous learning of new skills. Students will learn how to select technology based on their personal needs and/or the requirement of the task. Technology is a tool that can be used for collecting, creating, organizing, and presenting information, and students must be aware of how to select the proper tool to complete the task in front of them.

Interdisciplinary Connections/Content Area Integrations Including Technology:
- Critical Thinking
- Problem Solving
- Communication Skills
- Science
- Mathematics
- English Language Arts
- 21st Century Life and Career Skills

CCSS/NJCCCS Number	CCSS/NJCCCS Content
8.1 Strand A	All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.

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	Strand A: The use of technology and digital tools requires knowledge and appropriate use of operations and related applications.
8.1 Strand D	All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge. Strand D: Technological advancements create societal concerns regarding the practice of safe, legal, and ethical behaviors.

Summative Assessments:

May include but is not limited to: Prezi, Google Documents, Google Slides, Google Spreadsheet, Google Forms.

Students will be able to answer the essential questions for the unit and demonstrate their understanding on the summative assessment.

Formative Assessments:

May include but is not limited to: Teacher Observations, Brain Pop Videos and Graded Quiz, Oral Questioning, Homework, Quiz, Class Discussion and Assignments, Google Documents, Google Slides, Google Spreadsheet, Google Forms, Citation Machine.

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Enduring Understandings:

Technology is constantly changing and requires continuous learning of new skills. Selection of technology should be based upon personal needs and/or the requirements of the task. A tool is only as good as the operator utilizing the tool; knowing how to use the tool is paramount. Technology is a tool that can be used for collecting, organizing, creating, and presenting information.

Essential Questions:

In a world that is constantly changing, what skills do we need to master?
How do I choose which technological tools to use and when it is appropriate to use them?
What is the impact of technology on research and communication?
What are the benefits and limitations of using technology?

Instructional Outcomes:

8.1.8.D.1 Model appropriate online behaviors related to cybersafety, cyber bullying, cyber security, and cyber ethics.

8.1.8.D.2 Summarize the application of fair use and Creative Commons guidelines.

8.1.8.A.1 Create professional documents (e.g., newsletter, personalized learning plan, business letter, or flyer) using advanced features of a word processing program.

8.1.8.A.2 Plan and create a simple database. Define fields and input data. Produce a report utilizing sort and query.

8.1.8.A.3 Utilize multimedia presentation software to create presentations.

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8.1.8.A.4 Generate a spreadsheet to calculate, graph, and present information.

8.1.8.A.5 Evaluate digital resources and tools to accomplish tasks or solve problems.

8.1.8.D.3 Demonstrate how information on a controversial issue may be biased.

Suggested Learning Activities:

May include but is not limited to:

8.1.8.D.1

-Determine how to maintain cyber security and cyber ethics using appropriate online behaviors.

-Review cybersafety with the video links below:

http://media.commonsensemedia.org/games/top-secret.swf

https://learninglab.org/life_skills/cyberbullying/apply_movie.swf

-Present scenarios to students and discuss appropriate ways to maintain cyber security and appropriate online behaviors.

-Have students review the content found at the link below and determine the appropriate online behaviors related to cybersafety:

http://www.to14.com/games/game-1255516144.swf

-Explain Internet etiquette.

-Create a list of rules regarding Internet etiquette.

-Create a Prezi illustrating two or three of the rules regarding Internet etiquette.

-Create a brochure for younger students illustrating appropriate use of the Internet and ways to stay safe when utilizing the Internet.

-Review concepts related to appropriate behaviors for cybersafety with the video links and games below:

http://www.netsmartz.org/RealLifeStories/BrokenFriendship

http://www.onguardonline.gov/sites/default/files/games/healthquiz_loader.swf

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- Review Netiquette on the link below with students; class discussion.

-Have students take the online safety quiz found on this link: http://www.safekids.com/quiz/index.html

-Create a list of rules regarding Internet etiquette in a word processing document that outlines appropriate behaviors when online with regard to cybersafety.

-Determine the appropriate online behavior with regard to cyberbullying.

-Create a presentation that depicts appropriate behavior in dealing with issues of cyberbullying and cybersafety.

8.1.8.D.2

-Review concept of copyright with students through class discussion.

-Explain the concept of copyright in students' own words.

-Explain fair use policy after discussing article.

-Model appropriate citations of sources in MLA format using Internet tools.

-Explain fair use of resources with students.

-Introduce www. citationmachine.net as a tool students can utilize to cite resources in MLA format.

-Explain importance of correct citations and citing of all resources to ensure compliance with fair use policy.

-Have students practice creation of Works Cited pages with different types of resources.

8.1.8.A.1

-Utilize a word processing program to create a document with specific columns and margin formats.

-Use a word processing program to create a document in which you alter the style and font, insert bullets, and use spell check and the thesaurus tools of the program.

-Create a newsletter using advanced features of a word processing program.

-Create a poster, advertisement, or a book utilizing the advanced features of a word processing program.

-Employ a word processing program to insert and format digital pictures into the newsletter, poster, advertisement, or book cover.

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-Have students select an amendment to the Constitution (using links below) and create explaining the reasoning for the amendment and what the amendment changes with regard to citizens' rights using a word processing program. The newsletter must include appropriate graphics, margins, columns, etc.,:

http://www.ushistory.org/documents/amendments.htm

http://www.ratical.org/co-globalize/BillOfRights.html

8.1.8.A.2

-Utilize the link below to create a simple database with defined fields and input data into the database ranking the 21 counties of New Jersey by their increased cancer risk with specific data:

http://scorecard.goodguide.com/env-releases/hap/rank-counties.tcl?fips_state_code=34&how_many=100

-Sort and analyze the data

8.1.8.A.3

-Teacher will review various multimedia presentation tools and discuss ways to determine which tool is most appropriate for different types of tasks with specific attention to some key elements of multimedia projects to keep in mind: Design, Mechanics, Presentation, Content, References-Some important questions to consider: • What is the purpose of this presentation (to inform, disseminate, to illustrate, etc.)? • Who is my audience? What do I know about them, and how will the presentation be interpreted? • How do my multimedia elements (graphics, transitions, animation, sound, design) enhance the content or text, not distract from my presentation?

-Students will experiment with different multimedia presentation tools creating short presentations that include sounds and graphics.

-Students create animation of the different types of chemical bonding (Covalent, Ionic, Polar Covalent, and Metallic).

8.1.8.A.4

-Introduce spreadsheet software or utilize Google Docs to demonstrate how to compile data from a quick class survey of a topic of interest to the
   students.

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-After model data have been compiled, show students how to create a graph and assess which graphic representation is the best way in which to present information.

-Evaluate the best representation of information by creating multiple graphs using the same information to select best representation of data.

-Create a spreadsheet organizing information comparing different types of jobs and the salary paid in present day versus The Great Depression era. The following links can be used to research information:

http://www.rolfealumni.com/gravlund/the_great_depression.htm

http://www.thepeoplehistory.com/20sfood.html

8.1.8.A.5

-Provide students with different websites for them to evaluate the credibility of the sites.

-Present different scenarios to students, and have the students select the most appropriate tool to utilize to accomplish the task presented explaining why their selection of resources is the most appropriate.

http://zapatopi.net/treeoctopus/

http://www.shsu.edu/~lis_mah/documents/TCEA/hoaxtable.html

-Using Google Docs, have students generate a class list of reliable resources, and then have students examine the list for commonalities in the URL addresses such as .org and .edu without suggesting that to students.

8.1.8.D.3

-Students will create a flowchart or a graphic organizer using Inspiration software showing the pros and cons of a controversial current event using multiple resources to show how the information may be biased based upon the resources used.

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Suggested Differentiation:

Provide differentiated instruction through any and all of the following strategies:

- Allow student choice to experiment with various resources
- Work with a partner
- Provide a list of useful resources
- Chunk information into smaller parts
- Provide written notes and/or resources for the student to utilize
- Video or written tutorials
- Provide graphic organizers
- Allow extra time to complete assignments

Curriculum Development Resources: Roselle Public Schools Technology Curriculum Grades 7-8

Notes/Comments:
Use the link found below to access rubrics for all types of technology projects and activities:
http://www.schrockguide.net/assessment-and-rubrics.html

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Unit 2

Unit Summary: Students will understand that digital tools provide opportunities for people to have new experiences, recognize problems, design solutions, and express their ideas. Technological advances allow information to be spread worldwide in seconds, and this information can have an immediate impact. Students will collect data from testing models, analyze and apply the information, and collaborate.

Interdisciplinary Connections/Content Area Integrations Including Technology:
- Critical Thinking
- Problem Solving
- Communication Skills
- Science
- Mathematics
- English Language Arts
- 21st Century Life and Career Skills

CCSS/NJCCCS Number	CCSS/NJCCCS Content
8.1 Strand B	All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge. Strand B:

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	The use of technology and digital tools and media-rich resources enhances creativity and the construction of knowledge.
8.1 Strand E	All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge. Strand E: Effective use of digital tools assists in gathering and managing information.
8.2 Strand E	All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world, as they relate to the individual, global society, and the environment. Strand E: Digital tools facilitate local and global communication and collaboration in designing products and systems.
8.2 Strand G	All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world, as they relate to the individual, global society, and the environment. Strand G: The designed world is the product of a design process that provides the means to convert resources into products and systems.

Summative Assessments:

May include but not limited to: Prezi, Google Documents, Google Slides, Google Spreadsheet, Google Forms.

Students will be able to answer the essential questions for the unit and demonstrate their understanding on the summative assessment.

Aligned to Common Core State Standards/New Jersey Core Curriculum Content Standards as Applicable

Formative Assessments:

May include but is not limited to: Teacher Observations, Brain Pop Videos and Graded Quiz, Oral Questioning, Homework, Quiz, Class Discussion and Assignments, Google Documents, Google Slides, Google Spreadsheet, Google Forms.

Enduring Understandings:

Digital tools provide opportunities for people to have new experiences, recognize problems, design solutions, and express their ideas. Information is spread worldwide within seconds due to technological advancements and has an immediate impact. Collaboration is an essential part in industry. Data collected from testing models are analyzed and applied.

Essential Questions:

How can digital tools be used for creating original and innovative works, ideas, and solutions?
Why is the evaluation and appropriate use of accurate information more important than ever in the technological age?
How do I collect data?
How should I select which data are important?
How do I analyze data and apply it to improve technology?
Why do companies collect data from testing their products?

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Aligned to Common Core State Standards/New Jersey Core Curriculum Content Standards as Applicable

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Instructional Outcomes:

8.1.8.B.1 Synthesize and publish information about a local or global issue or event on a collaborative, web-based service (also known as a shared hosted service).

8.1.8.E.1 Gather and analyze findings using data collection technology to create a possible solution to a real world problem or a content-related problem.

8.2.8.E.1 Work in collaboration with peers and experts in the field to develop a product using the design process, data analysis, and trends, and maintain a digital log with annotated sketches to record the development cycle.

8.1.8.G.1 Explain why human-designed systems, products, and environments need to be constantly monitored, maintained, and improved.

8.1.8.G.2 Explain the interdependence of a subsystem that operates as part of a system.

Suggested Learning Activities:

May include but is not limited to:

8.1.8.B.1 and 8.1.8.E.1

-Have students research information about health issues specific to the African American population and Hispanic populations. Next, have students analyze the data they have collected in their research and create a plan to inform the local population of ways to combat health issues in the local community by participating in a "virtual discussion" with classmates.

8.2.8.E.1

-Explain the design process when creating a product.

-Work collaboratively to develop a product using the design process, data analysis, and trends in the market for your product.

-Create a digital log recording the development cycle of your product including sketches of the product throughout the design process.

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-Brainstorm with students a product that they use in their daily lives (Coach bag, sunglasses, cell phone protector, cell phone clip or carrier). Have the group come to consensus on the selection of a product to research and identify who manufactures the product, where it is manufactured, and what materials go into the manufacture of the product to create a list of resources required to create the product. Next, have students discuss ways in which to improve the product (create a list of the suggestions).

-Have students work in small groups to create an accurate representation of the product using every day, household items (cardboard, paper, pipe cleaners, etc.), and then create a three-dimensional sketch of the product using the link below:

http://www.sketchup.com/

-Create a digital log using Google Docs, a wiki, or a blog to record the developmental cycle of the product, including the sketches on the recording.
8.1.8.G.1

-Have students research water pollution issues in Toms River and other local areas due to pollution from chemical companies and other industries. Have students explain why water monitoring must take place and ways in which the monitoring systems can be improved and why they need to be maintained. Students will participate in "virtual" discussions using a collaborative web service of the teacher's choice.
 8.1.8.G.2

-Review how systems work; explain subsystems and their connection to the system using the human body as an example.

-Have students research diabetes and the interdependence of the body upon the pancreas for many of the body's functions.

-Using Inspiration software, have students create a flowchart/graphic organizer illustrating the connection between the parts of the system.

Suggested Differentiation:

Provide differentiated instruction through any and all of the following strategies:
- Allow student choice to experiment with various resources

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- Work with a partner
- Provide a list of useful resources
- Chunk information into smaller parts
- Provide written notes and/or resources for the student to utilize
- Video or written tutorials
- Provide graphic organizers
- Allow extra time to complete assignments

Curriculum Development Resources: Roselle Public Schools Technology Curriculum Grades 7-8

Notes/Comments:
Use the link found below to access rubrics for all types of technology projects and activities:
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Unit 3

Unit Summary: Students will understand that digital tools allow for communication and collaboration worldwide. Selection of the technology to be used should be based on personal and/or career needs or desire to achieve a common goal. Technology is constantly evolving, and all technological activities use resources that include tools/machines, materials, information, capital, time, and people.

Interdisciplinary Connections/Content Area Integrations Including Technology:
- Critical Thinking
- Problem Solving
- Communication Skills
- Science
- Mathematics
- English Language Arts
- 21st Century Life and Career Skills

CCSS/NJCCCS Number	CCSS/NJCCCS Content
8.1 Strand C	All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge. Strand C:

Aligned to Common Core State Standards/New Jersey Core Curriculum Content Standards as Applicable

	Digital tools and environments support the learning process and foster collaboration in solving local or global issues and problems.
8.1 Strand F	All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge. Strand F: Information accessed through the use of digital tools assists in generating solutions and making decisions.
8.2 Strand A	All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world, as they relate to the individual, global society, and the environment. Strand A: Technology products and systems impact every aspect of the world in which we live.
8.2 Strand C	All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world, as they relate to the individual, global society, and the environment. Strand C: Knowledge and understanding of human, cultural, and societal values are fundamental when designing technology systems and products in the global society.

Summative Assessments:

May include but is not limited to: Prezi, Google Documents, Google Slides, Google Spreadsheet, Google Forms.

Students will be able to answer the essential questions for the unit and demonstrate their understanding on the summative assessment.

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Formative Assessments:

May include but is not limited to: Teacher Observations, Brain Pop Graded Quiz, Do Now, Oral Questioning, Homework, Quiz, Class Discussion and Assignments, Google Documents, Google Slides, Google Spreadsheet, Google Forms.

Enduring Understandings:

Digital tools allow for communication and collaboration anytime/anyplace worldwide. Selection of technology should be based on personal and/or career needs assessment. A tool is only as good as the person using it.

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. A system has interrelated components designed to collectively achieve a desired goal. All technological activities use resources that include tools/machines, materials, information, energy, capital, time, and people.

Essential Questions:

How has the use of digital tools improved opportunities for communication and collaboration?

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?

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

Can a system continue to operate with a missing or malfunctioning component?

Is it always beneficial to use the most economical material/materials for production of a technological product?

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Instructional Outcomes:

8.1.8.C.1 Participate in an online learning community with learners from other countries to understand their perspectives on a global problem or issue, and propose possible solutions.

8.1.8.F.1 Use an electronic authoring tool in collaboration with learners from other countries to evaluate and summarize the perspectives of other cultures about a current event.

8.2.8.A.1 Explain the impact of globalization on the development of a technological system over time.

8.2.8.C.1 Explain the need for patents and the process of registering one.

8.2.8.C.2 Compare and contrast current and past incidences of ethical and unethical use of labor in the United States or another country and present results in a media-rich presentation.

Suggested Learning Activities:

May include but is not limited to:

8.1.8.C.1

-Using the links below, have students select a global problem or a global issue and discuss the issue or problem utilizing an online learning community to seek perspectives of students from other countries with regard to the issue or problem:

http://environment.nationalgeographic.com/environment/habitats/sustainable-agriculture/

http://www.globalissues.org/article/26/poverty-facts-and-stats

http://www.globalissues.org/issue/178/climate-change-and-global-warming

http://www.globalissues.org/article/165/racism

http://www.globalissues.org/issue/168/environmental-issues

8.1.8.F.1

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Have students use an electronic authoring tool to collaborate with students from other countries discussing and determining their perspectives on a contemporary political figure and then compare and contrast their perspectives with your own perspective in a podcast, Voicethread, or Google Slides presentation to share with your classmates.

8.2.8.A.1

-Review with students what globalization is; elicit responses from students; clarify responses to solidify definition of globalization for students.

-Have students research the production of Apple products (iPhones, iPods, etc.) items to answer the questions below: What do we know about each of the countries/regions where these objects were made? For those not made in the United States, why do you think these objects were made overseas? Who profits from these objects being made in another country but sold here? Who suffers or is exploited? Why do you think our economy is set up in this way? Have students post and discuss their findings on an online discussion board seeking input and comments from students in other countries or other parts of the United States.

8.2.8.C.1

Review the concept of patents through class discussion and brainstorming with students why something would need to be patented.

-Have students work collaboratively to "create" a product that meets a need in their daily lives, and then have students sketch their product using Sketchup software.

-Create a flowchart using Inspiration to show the steps in the design process that you would use to patent your product.

8.2.8.C.2

Have students discuss and define ethical and unethical use of labor. Using the links below, have students research child labor laws in the United States and two other countries to complete a triple Venn diagram comparing and contrasting the laws in three countries:

https://www.continuetolearn.uiowa.edu/laborctr/child_labor/about/us_laws.html

http://www.dol.gov/dol/topic/youthlabor/agerequirements.htm

http://www.dol.gov/dol/topic/youthlabor/agerequirements.htm

https://sites.google.com/a/tapa.tp.edu.tw/modern-day-slavery/child-labor/child-labor-in-china

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Have students create a media-rich presentation to bring to light the issue of child labor today and what exploitation is and how certain countries exploit their children with child labor.

Suggested Differentiation:
Provide differentiated instruction through any and all of the following strategies:
- Allow student choice to experiment with various resources
- Work with a partner
- Provide a list of useful resources
- Chunk information into smaller parts
- Provide written notes and/or resources for the student to utilize
- Video or written tutorials
- Provide graphic organizers
- Allow extra time to complete assignments

Curriculum Development Resources: Roselle Public Schools Technology Curriculum Grades 7-8

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Notes/Comments:

Use the link found below to access rubrics for all types of technology projects and activities:

http://www.schrockguide.net/assessment-and-rubrics.html

Unit 4

Unit Summary: Students will understand that technology outcomes have potential for anticipated and unanticipated positive and negative results. The design process is fundamental to technology and engineering.

Interdisciplinary Connections/Content Area Integrations Including Technology:

- Critical Thinking
- Problem Solving
- Communication Skills
- Science
- Mathematics
- English Language Arts
- 21st Century Life and Career Skills

CCSS/NJCCCS Number	CCSS/NJCCCS Content

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8.2 Strand B	All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world, as they relate to the individual, global society, and the environment. Strand B: The design process is a systematic approach to solving problems.
8.2 Strand D	All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world, as they relate to the individual, global society, and the environment. Strand D: Information-literacy skills, research, data analysis, and prediction provide the basis for the effective design of technology systems.
8.2 Strand F	All students will develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world, as they relate to the individual, global society, and the environment. Strand F: Technological products and systems are created through the application and appropriate use of technological resources.

Summative Assessments:

May include but is not limited to: Prezi, Google Documents, Google Slides, Google Spreadsheet, Google Forms.

Students will be able to answer the essential questions for the unit and demonstrate their understanding on the summative assessment.

Aligned to Common Core State Standards/New Jersey Core Curriculum Content Standards as Applicable

Formative Assessments:

May include but is not limited to: Teacher Observations, Brainpop Graded Quiz, Do Now, Oral Questioning, Homework, Quiz, Class Discussion and Assignments, Google Documents, Google Slides, Google Spreadsheet, Google Forms.

Enduring Understandings:

Technological outcomes have potential for anticipated and unanticipated positive and negative results.
The design process is fundamental to technology and engineering.

Essential Questions:

How does technology extend human capabilities?
What are the positive and negative consequences of technology?
Should technologies that produce negative impact be used?
When are the most sophisticated tools required, and when are the simplest tools best?

Instructional Outcomes:

8.2.8.B.1 Design and create a product that addresses a real world problem using the design process working with specific criteria and constraints.

8.2.8.B.2 Identify the design constraints and tradeoffs involved in designing a prototype (e.g., how the prototype might fail and how it might be
   improved) by completing a design problem and reporting results in a multimedia presentation.

8.2.8.B.3 Solve a science based design challenge and build a prototype using science and math principles throughout the design process.

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8.2.8.D.1 Evaluate the role of ethics and bias on trend analysis and prediction in the development of a product that impacts the United States and/or other countries.

8.2.8.F.1 Explain the impact of resource selection and processing in the development of a common technological product or system.

8.2.8.F.2 Explain how the resources and processes used in the production of a current technological product can be modified to have a more positive impact on the environment and the economy.

Suggested Learning Activities:

May include but is not limited to:

8.2.8.B.1 and 8.2.8.B.2

-Review design process with students through class discussion. Explain the steps in the design process.

- Using the links found below, have students research the constraints of the seats of different air carriers (Delta, American Airlines, and Jet Blue). Have students redesign the seating in the plane for better comfort and entertainment purposes.

-Have students work in small groups or in pairs to create sketches of the redesigned seating areas with actual dimensions and types of materials. (Teacher will create constraints for students by requiring a specific number of seats per plane, or maximum number of television monitors per plane, or specific materials to be utilized for the seating of television monitors, etc.)

-Students will create presentations reporting any design problems they encountered, as well as prototypes of their designs, and a pitch as to why someone should select their seats rather than another airline's seats in a multimedia presentation tool of their choice.

http://www.seatguru.com/airlines/JetBlue_Airways/fleetinfo.php

http://www.seatguru.com/airlines/Delta_Airlines/fleetinfo.php

http://www.seatguru.com/airlines/American_Airlines/fleetinfo.php

Aligned to Common Core State Standards/New Jersey Core Curriculum Content Standards as Applicable

8.2.8.B.3

-Using the links found below, have students create a prototype of a device to assist in the conservation of a specific natural resource selected:

http://www.neok12.com/Natural-Resources.htm

http://www.nrdc.org/issues/

http://www.brainpop.com/science/ourfragileenvironment/naturalresources/preview.weml

http://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/

http://www.econlib.org/library/Enc/NaturalResources.html

-Have students create a presentation depicting the prototype of the device they have created to assist in the conservation of a natural resource selected and explain why said natural resource needs to be conserved and any challenges they encountered in creation of their prototype.

8.2.8.D.1

-Using the links found below, have students research the issues surrounding genetically altered foods which may include higher costs to farmers for seeds, questions concerning safety for the consumer and environment, marketing, consumer choices, global impacts, etc. Communicate with students in your schools, other areas of the country, and world to understand various positions on this issue. Analyze these perspectives, identify ethical concerns that may exists and weigh them against the benefits of the innovation, and present your position online for comment globally:

http://learning.blogs.nytimes.com/1999/08/30/altered-genes/?_r=0

http://www.usda.gov/wps/portal/usdahome

http://www.monsanto.com/pages/default.aspx

8.2.8.F.1

-Using the links found below, have students research the life cycle of an aluminum can and explain the impact of the selection of aluminum in the product:

http://www.prlog.org/10364317-lifecycle-of-an-aluminum-can.html

http://www.azom.com/article.aspx?ArticleID=3529

Aligned to Common Core State Standards/New Jersey Core Curriculum Content Standards as Applicable

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http://www.aluminum.org/AM/Template.cfm?Section=Home&CONTENTID=30090&TEMPLATE=/CM/ContentDisplay.cfm

-Have students create a presentation using the presentation tool of their choice reporting on the impact of selecting aluminum in the development of soda cans.

8.2.8.F.2

-Have students use the links found below to research the present types of use and cost of power in your school. Survey how power is currently used in the building—some may be automatic usage, some always on, and others impacted by human choice.

-Identify the current types of energy available to consumers and compare cost factors. Energy usage has impact on the environment. Can the school change its impact by modifying type of power, usage, or user habits? Decide through research if alternate energies such as solar or geothermal can be used. Analyze types of energies, cost factors, and what changes that could be made to be greener and more cost effective. Present your findings in a multimedia presentation tool of your choice:

http://www.eere.energy.gov/kids/

http://www.epa.gov/reg5rcra/wptdiv/p2pages/energy.pdf

Suggested Differentiation:

Provide differentiated instruction through any and all of the following strategies:

- Allow student choice to experiment with various resources
- Work with a partner
- Provide a list of useful resources
- Chunk information into smaller parts
- Provide written notes and/or resources for the student to utilize

Aligned to Common Core State Standards/New Jersey Core Curriculum Content Standards as Applicable

- Video or written tutorials
- Provide graphic organizers
- Allow extra time to complete assignments

Curriculum Development Resources: Roselle Public Schools Technology Curriculum Grades 7-8

Notes/Comments:
Use the link found below to access rubrics for all types of technology projects and activities:
http://www.schrockguide.net/assessment-and-rubrics.html