



















Standard 8: Technology
Classroom Application Document

<p>Standard 8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.</p>		<p>By the end of Grade 2</p>
<p>Strand A: Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.</p>		
<p>Rationale: Students should demonstrate appropriate and effective use of technology both personally and professionally to research, communicate, create and store information.</p>		
<p><u>Technology CPI</u> 8.1.2.A.2 Create a document with text using a word processing application.</p> 	<p><u>Instructional Design Ideas</u></p> <ul style="list-style-type: none"> • Interdisciplinary Learning: Content area curriculum is developed while using relevant technology applications and cultivating skills. • TPACK: Technology, pedagogy and content overlap. <ul style="list-style-type: none"> • Universal Design for Learning: Students may use accessibility features to invert colors, change font and increase size to ensure that students can view and design products comfortably. 	<p><u>Sample Activity</u></p> <p>Using a word processing application create a “Wellness Class” document that is an informative text. Students summarize facts and definitions from the article about strategies to prevent the spread of common cold or flu. (See lesson link for article.) Revise, edit and share the final version with students and/or class guests, providing a reference and reinforcing good wellness practices.</p>  
<p><u>Content Area CPI</u> <u>Comprehensive Health & PE</u> 2.1.2.C.2 Summarize strategies to prevent the spread of common diseases and health conditions.</p> <p><u>Common Core English</u> CCSS.ELA-Literacy.CCRA.W.2 Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.</p>	<p><u>Technology Options</u></p> <ul style="list-style-type: none"> • Apache Open Office: A free, open productivity suite • Dragon Dictation: Speech to text by Nuance • MindMups: Supports visual thinking, organizing thoughts in a mind map that can be stored online or exported to use with other applications. Documents can be developed individually or shared in a collaborative environment. • Microsoft Word APP: for android tablets • NeoOffice: Office applications for Mac OS X <p>Tech Tip: There are many free options available to use on the devices presently in your classroom. Inventory the resources available and search to locate compatible freeware, open source or apps.</p>  	

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Legend Symbols used are a quick reference to indicate additional resources have been included. Additional information to locate resources is provided on a supplemental page.			
	Time Tips That Transform Practice		Supporting Research and Resources
	Professional Development and/or Classroom Resources		Multiple Means of Representation
	Lessons		Multiple Means of Actions and Expressions
	Technology Resources		Multiple Means of Engagement
	CCSS.ELA-Literacy.W.2.2: http://www.corestandards.org/ELA-Literacy/CCRA/W/ Comprehensive Health &PE 2.1.2.C.2: http://www.state.nj.us/education/cccs/2014/chpe/ Technology 8.1.2.A.2: http://www.state.nj.us/education/aps/cccs/tech/ Technological Pedagogical Content Knowledge (TPACK): www.tpack.org		
	Multiple Means of Actions: http://www.udlcenter.org/aboutudl/udlguidelines/principle2 Input is not limited to keys, voice to text and handwriting to text are alternative means to achieve the desired result.		
	Flu Prevention Lesson Plan: Create a Poster - http://kidshealth.org/classroom/prekto2/problems/conditions/colds_flu.pdf NOTE: Use a word processing program to create the poster reducing material needs.		
	Blast Off! Vocabulary Instruction Using a Virtual Field Trip: http://www.readwritethink.org/classroom-resources/lesson-plans/blast-vocabulary-instruction-using-946.html The lesson plan includes links to games, extension activities and standards alignment.		
	Apache Open Office: http://www.openoffice.org/ Dragon Dictation: http://www.nuance.com/for-individuals/mobile-applications/dragon-dictation/index.htm Microsoft Word for Android tablets: https://play.google.com/store/apps/details?id=com.microsoft.office.word MindMup: https://chrome.google.com/webstore/detail/mindmup-free-mind-map-web/dneaecjcgpeppfpaokiifokeieopppej?hl=en NeoOffice: http://www.neooffice.org/neojava/en/index.php		

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Standard 8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

By the end of Grade 5

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

Rationale: Students should demonstrate appropriate and effective use of technology both personally and professionally to research, communicate, create and store information.

Technology CPI
8.1.5.A.2
Format a document using a word processing application to enhance text and include graphics, symbols and/or pictures.



Instructional Design Ideas

- **Interdisciplinary Learning:** Content area curriculum is developed while using relevant technology applications and cultivating skills.
- **Multiple Means of Engagement:** What different options are offered to students to complete an activity? Students are offered concept maps (digital or paper) to organize thoughts, and/or suggested sites to find graphics, symbols and/or pictures to import into a word processing document. They can be provided opportunities to draw, scan or import these items into a document, and/or develop a video diary of their work progress.



Content Area CPI
Next Generation Science 3PS2-4
Define a simple design problem that can be solved by applying scientific ideas about magnets.

Sample Activity
Construct a latch using magnets to keep a door shut. Using a word processing application, write and format a report that organizes and defines the solution to this simple design problem. Clearly explain how it worked and insert a chart, graph or picture recording the results as evidence.



Technology Options

- **CAST Science Writer:** provides a structure to scaffold supports in developing the lab report. Text to speech is embedded for easy access
- Cell phone or iPad to capture images
- Scanner to convert printed image or sketch to digital for content variations

Common Core English
CCSS.ELA-LITERACY.CCRA.W.2
Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

- **Microsoft Word APP:** For android tablets
- **NeoOffice:** Office applications for Mac OS X

Tech Tip: When copy and paste are not performing, use the control key strokes instead. First select the object (text, image, etc.) to be copied. Next hold the Ctrl key on the keyboard and “C” to copy or “V” to paste.

















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

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	Time Tips That Transform Practice		Supporting Research and Resources
	Professional Development and/or Classroom Resources		Multiple Means of Representation
	Lessons		Multiple Means of Actions and Expressions
	Technology Resources		Multiple Means of Engagement

	<p>CCSS.ELA-Literacy.W.5.2: http://www.corestandards.org/ELA-Literacy/W/5/2/</p> <p>Next Generation Science – 3PS2-4: http://www.nextgenscience.org/3fi-forces-interactions</p> <p>Technology 8.1.5.A.2: http://www.state.nj.us/education/aps/cccs/tech/</p>
	<p>Multiple Means of Representation:</p> <p>http://www.udlcenter.org/aboutudl/udlguidelines/principle1</p> <p>Lost or forgotten homework is accessible from any device connected to the internet. Students can hear text using screen readers. Communication with parents is increased when the class web site is shared.</p>
	<p>Why retrofit your lessons when using technology to initially develop them can reduce barriers to information and save time by sharing files digitally.</p>
 	<p>BUY GREEN: Being an Eco-Friendly Consumer:</p> <p>http://www.pbs.org/parents/EEKOWORLD/lessons4_1.html</p> <p>Science Fair Lesson Plans: http://www.brainpop.com/educators/community/lesson-plan/planning-projects/ The lesson plans include links to games, interactive sites and extension activities.</p>
	<p>CAST Science Writer:</p> <p>http://sciencewriter.cast.org/welcome;jsessionid=64D97BE37DFEDADBDC44D17A377F1DFC</p> <p>Microsoft Word for Android tablets:</p> <p>https://play.google.com/store/apps/details?id=com.microsoft.office.word</p> <p>NeoOffice: http://www.neooffice.org/neojava/en/index.php</p> <p>Text option for Copy/Paste keystrokes: http://www.180techtips.com/082.html</p> <p>Video option for Copy/Paste Tips: https://www.youtube.com/watch?v=NqTxMSt99po</p>

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



Rationale: Students should demonstrate appropriate and effective use of technology both personally and professionally to research, communicate, create and store information.

Technology CPI
8.1.8A.5
Create a database query, sort and create a report and describe the process, and explain the report results.




Instructional Design Ideas

- **Interdisciplinary Learning:** Content area curriculum is developed while using relevant technology applications and cultivating skills.
- **Rubrics for assessment**
- **Multiple Means of Engagement:** Students are offered the choice of analyzing and visually mapping the data using tools such as Excel or digital mapping tools and importing the data into a database. They can create graphs to display the final product, or create video depictions of changes that occurred in the graph, or use other methods to complete the task.


Content Area CPI
21st Century Life & Careers C.RP8
Utilize critical thinking to make sense of problems and persevere in solving them.

Common Core English
CCSS.ELA-LITERACY.CCRA.W.2
Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.



Sample Activity

Create a collaborative database with classmates who each enter their data for a survey completed on a relevant content area topic that addresses a problem and increases community awareness. Critically analyze the data by querying, sorting, and developing a graphical display. Use the analysis to validate any conclusions or hypothesis to persevere in solving the problems. Write an explanatory text to support the development of a public service document conveying ideas and concepts.




Technology Options













- **Audacity:** Create audio files to share online
- **Cell phone** to capture video presentation
- **Create a Graph:** visualizing data
- **Google forms:** Can be used to develop surveys, text or with pictures, collect data and sort for analysis

- **CutePDF:** to increase compatibility

Tech Tip: Not all files can be opened in all programs, they are not compatible. Use .pdf file format which has greater compatibility. The author must open the file and “save as” a .pdf file format.



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	Lessons		Multiple Means of Actions and Expressions
	Technology Resources		Multiple Means of Engagement
	21st Century Life & Careers CRP8: http://www.state.nj.us/education/cccs/2014/career/CareerReadyPractices.pdf CCSS.ELA-Literacy.W.8.2: http://www.corestandards.org/ELA-Literacy/W/8/2/ Developing and Using Instructional Rubrics: http://www.nesacenter.org/uploaded/conferences/FLC/2012/handouts/Arpin/ArpinReadingDevelopingUsingInstructionalRubrics.pdf Technology 8.1.8.A.2 and 8.1.8.A.5: http://www.state.nj.us/education/aps/cccs/tech/		
	Multiple Means of Engagement: http://www.udlcenter.org/aboutudl/udlguidelines/principle3 Why, what and how to create rubrics: http://www.udlcenter.org/implementation/examples/examples8_1		
	Drive-Thru Nutrition: http://www.educationworld.com/a_tech/techlp/techlp029.shtml Students can individually record their intake for a designated time period, do research to evaluate personal nutritional habits, and enter into a collaborative database to increase the amount of data for analysis. Rock Your World Initial PSA Ideas: http://www.rock-your-world.org/brainstorming-initial-psa-ideas-reviewing-project-requirements-planning-out-individual-psa-concepts		
	Audacity: http://sourceforge.net/projects/audacity/ Create a Graph: http://nces.ed.gov/nceskids/createagraph/ CutePDF: http://www.cutepdf.com/ Google Forms: https://support.google.com/docs/answer/87809?hl=en		

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Standard 8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

By the end of Grade 12

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



Rationale: Students should demonstrate appropriate and effective use of technology both personally and professionally to research, communicate, create and store information.

Technology CPI
8.1.12.A.3
Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue.




Instructional Design Ideas

- **Interdisciplinary Learning:** Content area curriculum is developed while using relevant technology applications and cultivating skills.
- **Multiple Means of Representation:** A video can be shown and real world graphic examples of global environmental issues and the areas of concern can be shared and discussed.





Sample Activity
Evaluate or refine a technological solution to reduce the impact of humans on natural systems. Use multiple sources and sustained research to present and identify the issue, and prior attempts to solve it. Collaborate online to further research other perspectives on the issue(s), previous solutions and their impact(s). Discuss a resolution. Pose a self-generated question to prepare a report to increase knowledge and awareness regarding the issues. Demonstrate understanding by recommending strategies to decrease or resolve the issue.



Content Area CPI
Next Generation Science
HS-ESS3-4
Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

CCSS.ELA-Literacy.CCRA.W.7
Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation





Technology Options

- **The Global Classroom Project:** facilitate global connections with an open project; register as a participant of a project seeking collaborators
- **ooVoo:** A synchronous conferencing or video recorder
- **Google Drive:** Allows users to create, communicate and share files and is compatible with a variety of operating systems.

Tech Tip: When viewing pages on the Internet the text on the screen may be too large to view the entire window or too small to read. Adjust the size by using the Control + or – keys. Hold the Ctrl key, next while holding use + to enlarge or – to decrease. Visit the Web Accessibility Initiative Site for additional accessibility tips









<http://www.w3.org/WAI/changedesign.html>









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	Lessons		Multiple Means of Actions and Expressions
	Technology Resources		Multiple Means of Engagement

	CCSS.ELA-Literacy.W.11-12.7: http://www.corestandards.org/ELA-Literacy/W/11-12/7/ Next Generation Science HS-EES3-4: http://www.nextgenscience.org/print/1148 Technology 8.1.12.A.3: http://www.state.nj.us/education/aps/cccs/tech/
	Multiple Means of Representation: Guideline 1– Learners differ in the ways that they perceive and comprehend information that is presented to them. There is not one means of representation that will be optimal for all learners; providing options for representation is essential. Teachers should also encourage students to customize resources by modifying the view on screen and selecting a format compatible to their learning style. http://www.udlcenter.org/aboutudl/udlguidelines/principle1 Teacher vs Student-Centered Instruction: http://www.ncrlc.org/essentials/goalsmethods/learncentpop.html
	Collaborative Projects with lesson plans: http://www.ciese.org/materials/k12/ Multiple lesson plans with asynchronous communication: http://www.pbs.org/independentlens/classroom/web-originals/
 	Google Drive: https://tools.google.com/dlpage/drive Getting Started with Google Drive: https://support.google.com/drive/answer/2424384?hl=en What is Google Drive: http://www.gcflearnfree.org/googledriveanddocs/1.2 The Global Classroom Project: collaborative projects - http://theglobalclassroomproject.org/category/our-contributors/pernille-ripp/ Cool Ways to Use Skype in the Classroom: http://www.teachhub.com/using-skype-classroom ooVoo – synchronous video chat or video recording: http://www.oovoo.com/home.aspx