

Standard 8: Technology
Classroom Application Document

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 2

Strand C: Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

Rationale: Students’ ability to communicate and collaborate both locally and globally is enhanced by the use of technology tools.

Technology CPI

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.



Instructional Design Ideas

- **Interdisciplinary Learning:** Content area curriculum is developed while using relevant technology applications and cultivating skills.
- **Multiple Means of Action and Expression:** It has been said that a picture says a thousand words. Use pictures to supplement text giving multiple ways to gain knowledge and experience the

lesson. Empower students giving them the opportunity to use multiple resources (draw, collect pictures, print digital images) to demonstrate understanding.



Sample Activity

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



Content Area CPI

NEXT GENERATION SCIENCE 2-PS1-1

Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.

CCSS.ELA-LITERACY.CCRA.W.6

Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Technology Options

- **Digital device:** A means to capture images (phone, tablet, camera).
- **Google Drive:** Use forms for collaborative data input and the ability to manipulate and share the data.
















- **Wise Mapping:** A graphic organizer for brainstorming. The file is stored online, can be shared and embedded into other programs.
- **ooVoo:** Synchronous conferencing or video recorder.
- **Google Drive:** Documents can be collaboratively developed and shared online.

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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.CCRA.W.6: http://www.corestandards.org/ELA-Literacy/CCRA/W/#CCSS.ELA-Literacy.CCRA.W.6 Next Generation Science 2-PS1-1: http://www.nextgenscience.org/2spm-structures-properties-matter Technology 8.1.2.C.1: http://www.state.nj.us/education/aps/cccs/tech/
	Multiple Means of Representation: http://www.udlcenter.org/aboutudl/udlguidelines/principle1
	Rock Hunter: http://sciencenetlinks.com/lessons/rock-hunters/ Square of Life Project: Studies in Local and Global Environment: The lesson plans include links to games, interactive sites, extension activities and standards alignment: http://ciese.org/curriculum/squareproj/
	There's a Nightmare in My Closet: http://www.monsterexchange.org/teacher_parent/lesson2.htm#resources
	Google Drive: Forms: https://support.google.com/docs/answer/2839737?hl=en Google Drive: Docs: Overview of docs, sheets and slides: https://support.google.com/docs/answer/49008?hl=en ooVoo: Synchronous video chat or video recording: http://www.oovoo.com/home.aspx Wise Mapping: A graphic organizer for brainstorming: http://www.wisemapping.com

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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 C: Communication and Collaboration:

Rationale: Students' ability to communicate and collaborate both locally and globally is enhanced by the use of technology tools.

Technology CPI

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.



Instructional Design Ideas

- **Interdisciplinary Learning:** Content area curriculum is developed while using relevant technology applications and cultivating skills.
 - **Multiple Means of Engagement:** Technology is one component useful in overcoming hurdles which may block access to content. Students are provided with options for writing their opinions such as spell check, prediction software, and/or a graphic organizer to organize thoughts.



Sample Activity

If you were offered the ability to address world leaders, what would you tell them? Write an opinion piece expressing your point of view about a global issue. Include reasons and information to support your view. Post the opinion piece in an online discussion forum with learners in the U.S. and other countries to explore alternative opinions and multiple perspectives. Write a reflective opinion piece using the online discussion as a resource.



Content Area CPI

Social Studies 6.1.4.A.15

Explain how and why it is important that people from diverse cultures collaborate to find solutions to community, state, national, and global challenges.

CCSS.ELA-LITERACY.CCRA.W.1

Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.
















Technology Options

- **ePals:** Offers students projects to join and participate in, or the ability to submit their own project looking for participants.
- **Google Drive:** Offers tools to create, collaborate, share, and store documents that are compatible with a variety of operating systems. Documents can be accessed from any internet connection.
- **ooVoo:** Synchronous conferencing or video recorder – supports real time oral discussions.
- **The Global Classroom Project:** Offers projects from around the globe, seeking collaborators.
- **Thunder:** A free screen reader that helps to close reading level gaps and vision impairments (translates text to audio).



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	Multiple Means of Engagement: Optimize relevance, value, and authenticity: http://www.udlcenter.org/aboutudl/udlguidelines/principle3		
	Committee on Teaching about the United Nations (CTAUN) has many resources, starter topics and opportunities to participate in global competitions: http://www.ctaun.org/ Engineering Solutions: http://sciencenetlinks.com/lessons/engineering-solutions/		
 	ePals: Collaborative projects: http://www.epals.com/#!/main Google Drive: https://www.google.com/drive/ ooVoo: Synchronous video chat or video recording- http://www.oovoo.com/home.aspx The Global Classroom Project: Collaborative projects: http://theglobalclassroomproject.wordpress.com/ Thunder: http://www.screenreader.net/index.php?pageid=11		

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Technology CPI

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.



Instructional Design Ideas

- Interdisciplinary Learning: Content area curriculum is developed while using relevant technology applications and cultivating skills.
- Real world learning, not done in isolation. Assignments can be evaluated by two different content area experts to score and give feedback, e.g. English for structure, Social Studies for content.
- Multiple Means of Representation: Scaffold layers of support to assist learners in processing information. Layers of support may be modeling the process, using mind maps or graphic organizers to identify relevant relationships and concepts and/or use video to illustrate concepts.  

Sample Activity

Collaborate with peers to investigate and analyze the power struggle among European countries to determine the impact on people living in Europe and the Americas during the Colonial period. Use Internet resources to produce and publish writing that clearly and effectively presents the relationship and how the struggle has impacted individuals then and today. Post the findings in an online forum to discuss with learners from other countries.




Content Area CPI



Social Studies 6.1.8.D.2.a

Analyze the power struggle among European countries, and determine its impact on people living in Europe and the Americas.

CCSS.ELA-LITERACY.CCSS W.6

Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others. 

Technology Options

- **Blurb**: Creations are stored online, increasing access and reducing the need for storage space.
- **BookWright**: Download and work offline. Files can be uploaded for publication if desired.
- **Google Drive –slides**: A free presentation tool where each slide represents a page. Collaborate and share with teachers, students or community as desired.
- **Classroom20**: Is an online community for educators to collaborate using technology. It is designed for teachers at different technology skill levels.  

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**By the end
of Grade 12**

Strand C: Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

Rationale: Students' ability to communicate and collaborate both locally and globally is enhanced by the use of technology tools.

Technology CPI

8.1.12.C.1

Develop an innovative solution to a real world problem or issue in collaboration with peers and experts, and present ideas for feedback through social media or in an online community.



Instructional Design Ideas

- Content area curriculum is developed while using relevant technology applications and cultivating skills.
- Engage learners by using social media tools they commonly use.
- Multiple Means of Engagement: Foster a virtual, collaborative environment between peers through social media, Skype or other digital tool to increase availability of supports. Record collaborative peer activities and post online to repeat and review as needed.



Sample Activity

Design an innovative solution to the complex real world problem of plastics in the oceans. Collaborate with peers and/or experts to break down the problem into smaller more manageable problems that can be solved through engineering. Use technology to support collaboration and research and to publish and share solutions. Respond to and update your work from ongoing feedback, including new arguments and information.



Content Area CPI

HS-ETS1-2

Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering

CCSS.ELA-LITERACY.CCRA.W.6

Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
















Technology Options

- Edublogs.org: An established secure school community supporting educational projects. Password protected or open for public viewing.
- GlobalSchoolNet: Linking students around the world.
- International Projects or Partners Place (iPoPP): A place for educators and youth worldwide to find global learning projects and partners.
- International Cyber Fair : An authentic learning program used by schools and youth organizations around the world.

Tech Tip: Fishing for menus can be time consuming and frustrating. An alternative is to point to the desired text or item with the cursor and “right” click to display related menu options.



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	Multiple Means of Engagement: Foster collaboration and communication: http://www.udlcenter.org/aboutudl/udlguidelines/principle3		
	Documenting our Senior Citizens Lives: Can technology simplify tasks they struggle to perform?: http://www.digitalwish.com/dw/digitalwish/view_lesson_plans?id=3073 Energy System and Solutions: http://www.clarkson.edu/highschool/k12/project/energysystems.html		
	Solutions for Real World Economic Problems in the Classroom: http://www.digitalwish.com/dw/digitalwish/view_lesson_plans?id=4671		
	Edublogs: http://edublogs.org/ Global Education Conference: http://www.globaleducationconference.com/ International Cyber Fair: http://www.globalschoolnet.org/gsnf/ International Projects or Partners Place: http://www.globalschoolnet.org/ipopp/index.html		