Instructional Technology

in Concord Public Schools 2015

Vision of Technology to Enhance Learning

“Applying proper technology can have significant impact on student learning. Benefits, both procedural and conceptual, encompass a broad range of academic subject areas – *writing, language, research, science, mathematics, social studies, and applied arts*.”

procedural - learned as a life skill

conceptual - enrich & differentiate subject area content

Types of Usage

Using technology for communication, research, organization of knowledge, calculation, experimentation, and simulation; students will:

• improve their ability to write and communicate effectively

• gain skills that enable them to evaluate a problem and apply the correct technology to aid them in solving the problem

• take more proactive roles in gaining knowledge

• take advantage of multiple paths to learning

• take part in collaborative learning experiences

• gain skills to search, select, organize, and present information using various sources

• carry out experimental investigations

• analyze, interpret, and evaluate information

Elementary - Procedural and Conceptual

Almost a 2:1 model K-5 utilizing Apple MacBooks, iMacs, and iPads
- Canon digital cameras, Promethean Activboards, USB Microscopes, iPevos document cameras, Canon scanners

Reading - Apps for education, creation of eBooks, multimedia projects, Storybird; iReady, Lexia Core5, Track My Progress, RAZ Kids

Writing – Google Drive, Little Bird Tales, WordPress, Kidblog, multimedia projects, podcasts, blogs

Math - Google Drive, Apps for Education, Activboards, Dreambox, iReady, Track My Progress, Fastt Math, Turtle Art, Khan Academy, Illumination Interactive Tools

Elementary - Procedural and Conceptual

Art - KidPix, iPhoto, Image Capture, AudioBoom App, Google Drive

Music - GarageBand, iMovie, PrintMusic, Music Ace, Finale Notepad

Library - Digital Citizenship Curriculum

Social Studies/Science -BrainPOP, Discovery Education, STEAM projects, SAM Animation, USB microscope

Creativity suite - Google Apps for Education, iMovie, iPhoto, KidPix, Explain Everything App, Book Creator App, Little Bird Tales, SAM Animation, Garage Band

Elementary

Digital Storytelling

Students in Grades K-1 using iPads to explain their thinking

Multimedia: photos, video, narration, text

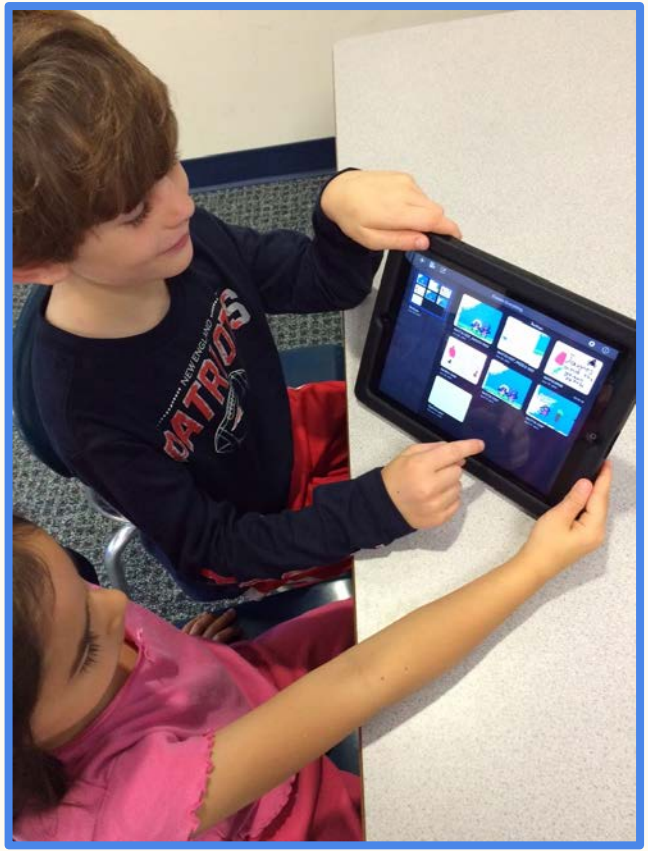
Topics: Small Moments, STEAM projects, Narrative writing, Math concepts

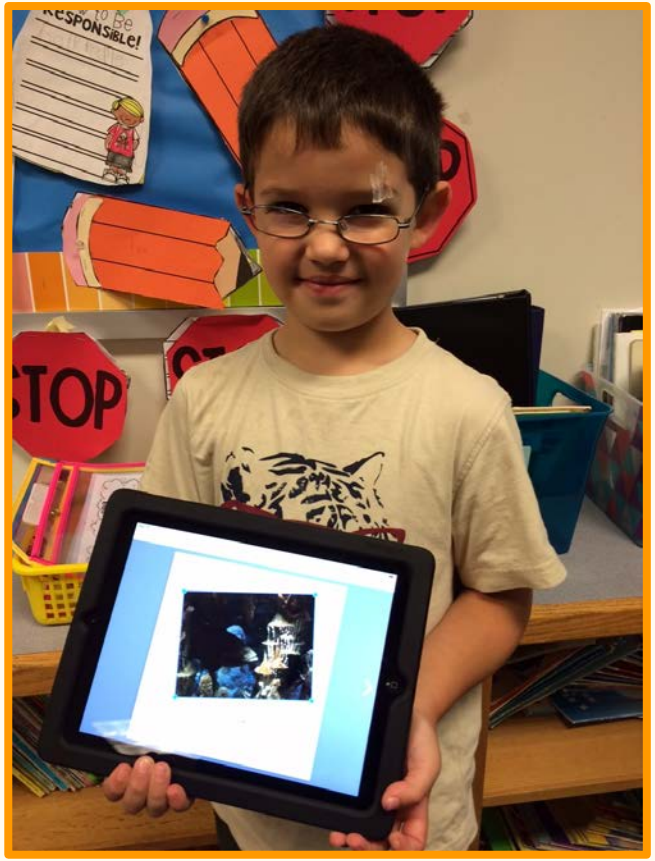
Using Book Creator to Create Books
Creativity - Collaboration - Communication

Natural tendency to collaborate with iPads

Flexible platform

Multiple apps to express themselves





Sharing their writing with a larger audience:

iPad ebooks, class blogs, websites

Literacy Centers

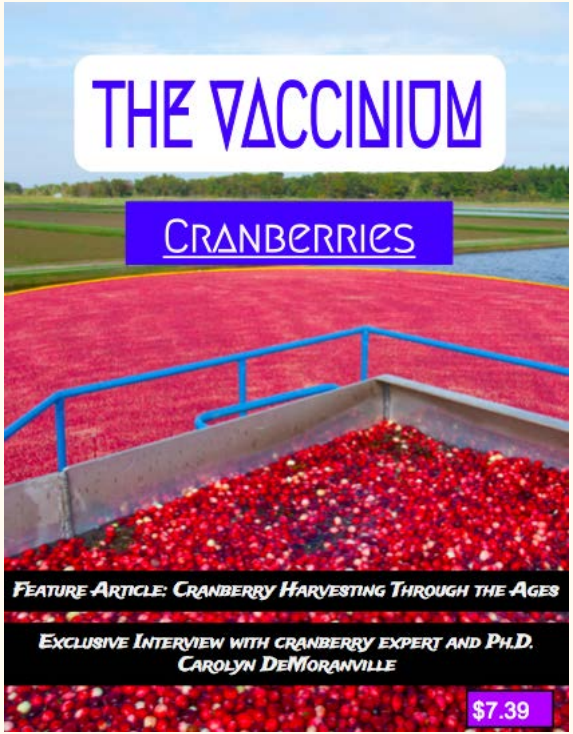
Targeted instruction based on their personal learning profile

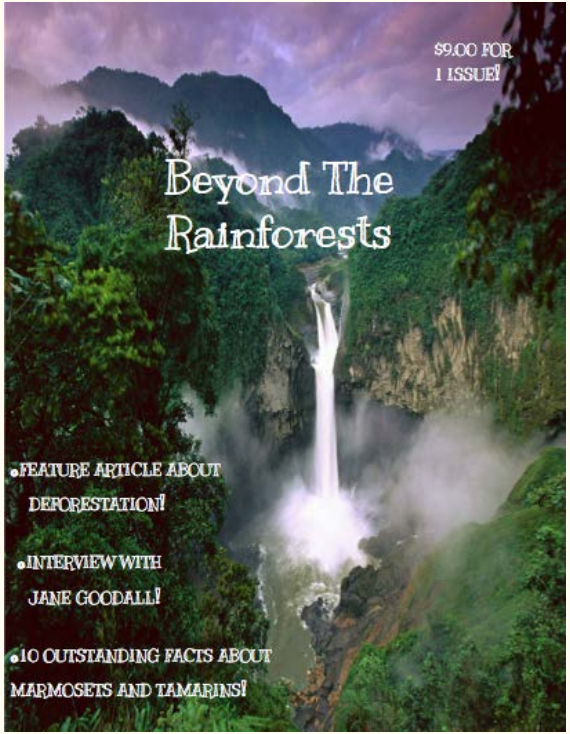
What they need, when they need it

Students can monitor their own progress

Google Drive - Transforming Writing in Grade 3-5

Magazine Project - 4th grade





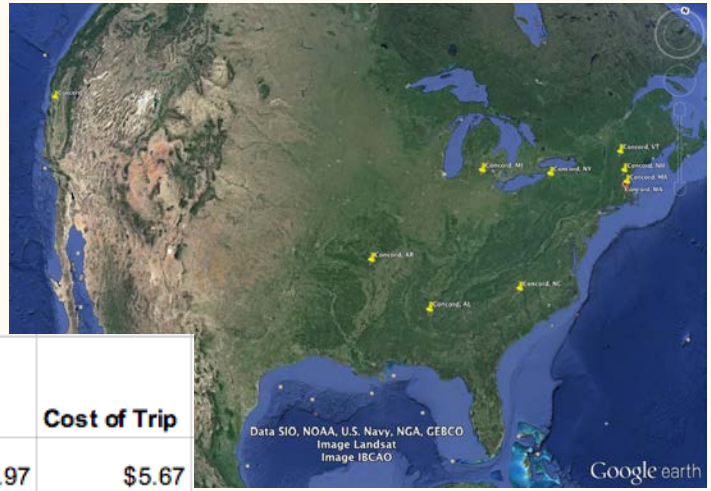
CPS/CCRSD Technology Plan

Through the use of technology, teachers can:

- Make the classroom more engaging and more effective;
- Adapt the curriculum to individual learning styles;
- Use multimedia to help students make connections between abstract concepts and the world around them;
- Provide simulations that challenge students to perform real and authentic tasks;
- Provide collaborative experiences that are engaging and respectful of student learning styles and interest levels;
- Use the Internet to remove the walls of the classroom and allow learners access to primary sources of information, global peers, and the vast resources available online.

Concord Across The Country Trip!

Google Earth and Google Sheets used for Multiplication and Division Unit



Departure Point	Arrival Point	Miles	Subaru Outback MPG	Gallons of Gas Used	Cost of 1 Gallon of Gas	Cost of Trip
Concord, Massachusetts	Concord, New Hampshire	63	33	1.91	$2.97	$5.67
Concord, New Hampshire	Concord, Vermont	100	33	3.03	$2.97	$9.00
Concord, Vermont	Concord, New York	508	33	15.39	$2.97	$45.72
Concord, New York	Concord, Michigan	377	33	11.42	$2.97	$33.93
Concord, Michigan	Concord, California	2295	33	69.55	$2.97	$206.55
Concord, California	Concord, Arkansas	1975	33	59.85	$2.97	$177.75
Concord, Arkansas	Concord, Alabama	358	33	10.85	$2.97	$32.22
Concord, Alabama	Concord, North Carolina	428	33	12.97	$2.97	$38.52
Concord, North Carolina	Concord, Massachusetts	817	33	24.76	$2.97	$73.53
	TOTALS	**6921**		**209.73**		**$622.89**

Can money buy you a World Series trophy?

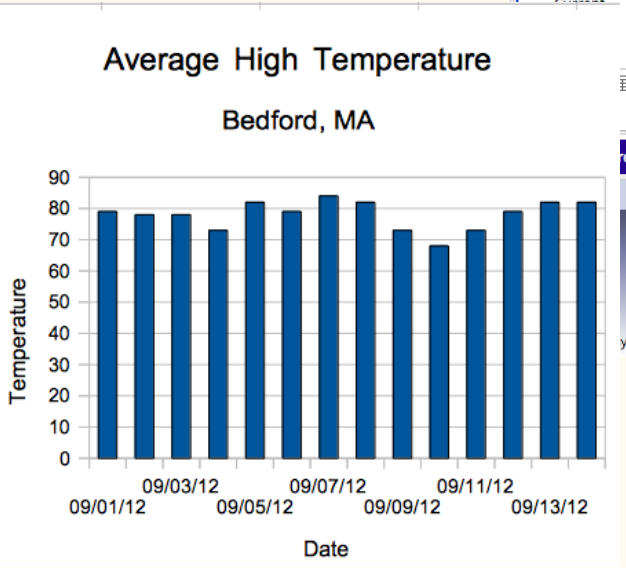
Google Sheets and Internet Searching used for Large Numbers Addition & Subtraction Unit

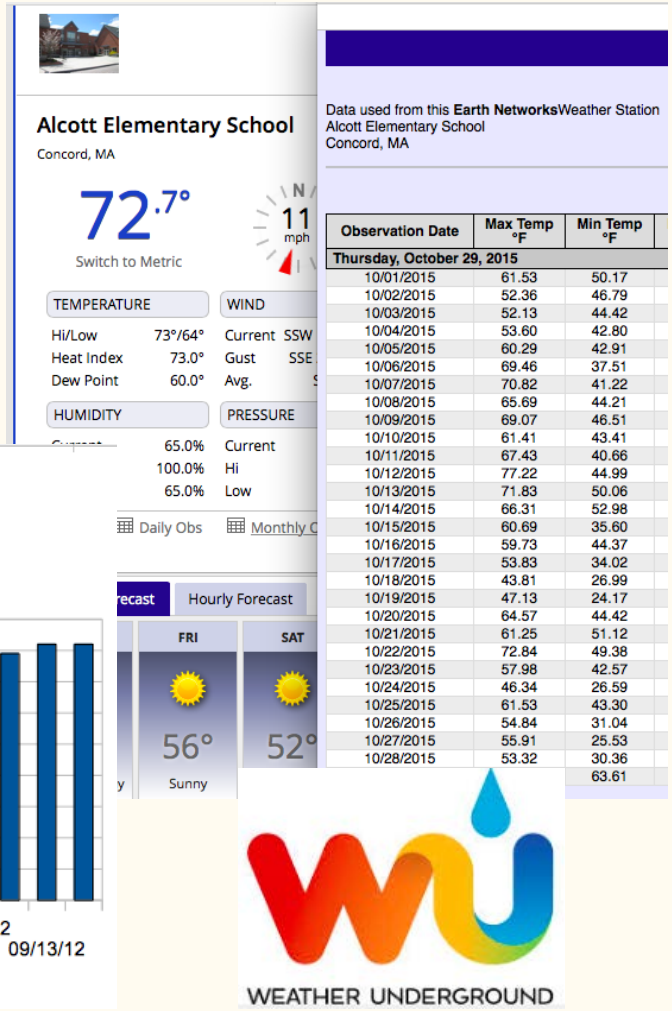
Baseball Team	2014 Average Ticket Cost	2014 Average Attendance Per Home Game	Average Money Made Per Game	Average Money Made Per 81 Home Games	Difference between team and NY Yankees	World Series Championships since 2000	World Series Appearances since 2000 without winning
Boston Red Sox	$52.32	36,494	$1,909,366.08	$154,658,652.48	$22,885,733.52	2013, 2007, 2004	
New York Yankees	$51.55	42,520	$2,191,906.00	$177,544,386.00	$0.00	2009, 2000	2003, 2001
Chicago Cubs	$44.16	32,742	$1,445,886.72	$117,116,824.32	$60,427,561.68		
Philadelphia Phillies	$37.42	29,924	$1,119,756.08	$90,700,242.48	$86,844,143.52	2008	2009
Washington Nationals	$35.24	31,844	$1,122,182.56	$90,896,787.36	$86,647,598.64		
St. Louis Cardinals	$33.84	43,711	$1,479,180.24	$119,813,599.44	$57,730,786.56	2011, 2006	2013, 2004
Minnesota Twins	$32.59	27,785	$905,513.15	$73,346,565.15	$104,197,820.85		
San Francisco Giants	$31.63	41,588	$1,315,428.44	$106,549,703.64	$70,994,682.36	2014, 2012, 2010	2002
Seattle Mariners	$28.45	25,485	$725,048.25	$58,728,908.25	$118,815,477.75		
Detroit Tigers	$28.22	36,014	$1,016,315.08	$82,321,521.48	$95,222,864.52		2012, 2006
Houston Astros	$27.98	21,627	$605,123.46	$49,015,000.26	$128,529,385.74		2005
Anaheim Angels	$27.40	38,221	$1,047,255.40	$84,827,687.40	$92,716,698.60	2002	
Miami Marlins	$27.01	21,386	$577,635.86	$46,788,504.66	$130,755,881.34	2003	
Chicago White Sox	$26.05	32,742	$852,929.10	$69,087,257.10	$108,457,128.90	2005	
Arizona Diamondbacks	$17.98	25,601	$460,305.98	$37,284,784.38	$140,259,601.62	2001	

September Weather Blues?

Microsoft Excel, Alcott Weather Station and Internet Searching used for Data Unit

	High Temp. Bedford, MA	High Temp. Orlando, FL		
09/01/12	79	91	***Bedford***	
09/02/12	78	90	Maximum	84
09/03/12	78	91	Minimum	68
09/04/12	73	91	Mean	78
09/05/12	82	91	Median	79
09/06/12	79	90	Mode	82
09/07/12	84	91	Range	16
09/08/12	82	91		
09/09/12	73	84		
09/10/12	68	87	***Orlando***	
09/11/12	73	86	Maximum	91
09/12/12	79	88	Minimum	84
09/13/12	82	89	Mean	89
09/14/12	82	84	Median	90
			Mode	91
			Range	7





Observation Date	Max Temp °F	Min Temp °F
Thursday, October 29, 2015		
10/01/2015	61.53	50.17
10/02/2015	52.36	46.79
10/03/2015	52.13	44.42
10/04/2015	53.60	42.80
10/05/2015	60.29	42.91
10/06/2015	69.46	37.51
10/07/2015	70.82	41.22
10/08/2015	65.69	44.21
10/09/2015	69.07	46.51
10/10/2015	61.41	43.41
10/11/2015	67.43	40.66
10/12/2015	77.22	44.99
10/13/2015	71.83	50.06
10/14/2015	66.31	52.98
10/15/2015	60.69	35.60
10/16/2015	59.73	44.37
10/17/2015	53.83	34.02
10/18/2015	43.81	26.99
10/19/2015	47.13	24.17
10/20/2015	64.57	44.42
10/21/2015	61.25	51.12
10/22/2015	72.84	49.38
10/23/2015	57.98	42.57
10/24/2015	46.34	26.59
10/25/2015	61.53	43.30
10/26/2015	54.84	31.04
10/27/2015	55.91	25.53
10/28/2015	53.32	30.36
		63.61

WEATHER UNDERGROUND

Middle School - Procedural and Conceptual

1:1 MacBook Air, ActivBoards, Desktops, iPads, Digital Microscopes and cameras, Telepresence Robot, Computer lab

Gmail; Google Calendar - homework ; Google Drive – Online writing and writing portfolios; Noodle Tools for research

Art- Digital cameras and online portfolios

English – VoiceThread, Google Drive, Google Apps for Education, iMovie, Online Writing Portfolios,

Math – Online textbooks, Socrative student response, Edmodo, Study Island, Pear Deck

Social Studies – Noodle tools and research databases, Google Docs, Voice Thread, Google Maps, Moodle, Socrative, Discovery Education online textbooks

Science – Google Drive, Google Docs, iMovie, Digital Microscopes, Achieve 3000

Middle School - Procedural and Conceptual

World Language – Skype, Voicethread, Google, GoogleMaps, iMovie, Quicktime, Lingtlanguage, Quizlet, Animoto, Voki, Infuse Learning, Brain Shark, online textbook

Applied Technology – West Point Bridge, CAD, iMovie, Sketchup,

Health – Fitnessgram software

Music – Google Docs, Moodle, SmartMusic

Multimedia - MIT's Scratch programming - computational thinking

Digital Literacy - Digital tools and skills, learning strategies to apply in all classes

Middle School -

Digital Literacy course for 6th graders: digital tools and skills to support 1 to 1 learning community

Student Matrix for Technology Skills Growth - tool for student reflection on digital skills, goal setting and habits of mind integration and progress in all their classes throughout sixth grade.

Student digital portfolios

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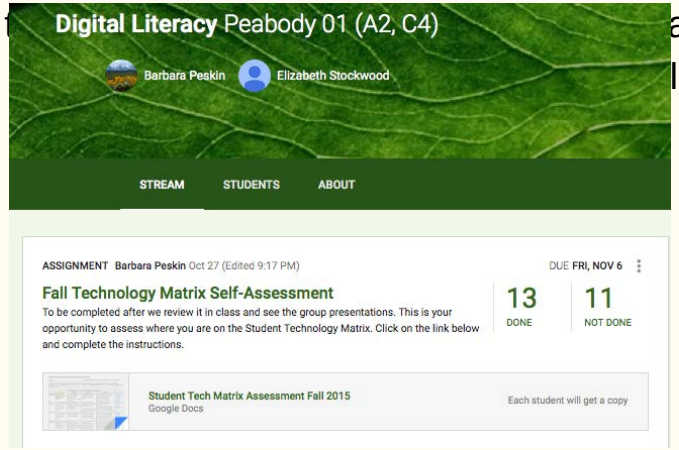

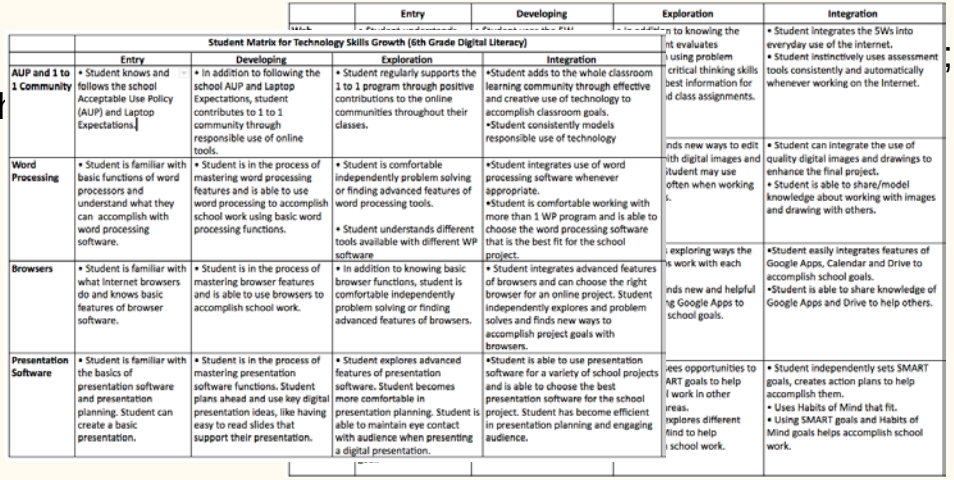

Student Matrix for Technology Skills Growth (6th Grade Digital Literacy)				
	Entry	Developing	Exploration	Integration
AUP and 1 to 1 Community	• Student knows and follows the school Acceptable Use Policy (AUP) and Laptop Expectations.	• In addition to following the school AUP and Laptop Expectations, student contributes to 1 to 1 community through responsible use of online tools.	• Student regularly supports the 1 to 1 program through positive contributions to the online communities throughout their classes.	•Student adds to the whole classroom learning community through effective and creative use of technology to accomplish classroom goals. •Student consistently models responsible use of technology
Word Processing	• Student is familiar with basic functions of word processors and understand what they can accomplish with word processing software.	• Student is in the process of mastering word processing features and is able to use word processing to accomplish school work using basic word processing functions.	• Student is comfortable independently problem solving or finding advanced features of word processing tools. • Student understands different tools available with different WP software	•Student integrates use of word processing software whenever appropriate. •Student is comfortable working with more than 1 WP program and is able to choose the word processing software that is the best fit for the school project.
Browsers	• Student is familiar with what Internet browsers do and knows basic features of browser software.	• Student is in the process of mastering browser features and is able to use browsers to accomplish school work.	• In addition to knowing basic browser functions, student is comfortable independently problem solving or finding advanced features of browsers.	• Student integrates advanced features of browsers and can choose the right browser for an online project. Student independently explores and problem solves and finds new ways to accomplish project goals with browsers.
Presentation Software	• Student is familiar with the basics of presentation software and presentation planning. Student can create a basic presentation.	• Student is in the process of mastering presentation software functions. Student plans ahead and use key digital presentation ideas, like having easy to read slides that support their presentation.	• Student explores advanced features of presentation software. Student becomes more comfortable in presentation planning. Student is able to maintain eye contact with audience when presenting a digital presentation.	•Student is able to use presentation software for a variety of school projects and is able to choose the best presentation software for the school project. Student has become efficient in presentation planning and engaging audience.

7th Grade Science Project

The Hunt for Water Bears - Tardigrades

Digital Microscopes

Hands on inquiry approach

1:1 Laptop program

Collaboration

Database

Digital Microscopes

Students gather samples in the schoolyard, create wet-mount slides, connect their laptops to the digital microscope, view and transfer images of the Water Bears they find. Then they create a classroom presentation of Water Bears

sharinghttps://drive.google.com/file/d/0B5Ns2ajwZhGFXzI1QjQ2S0d1eDg/view?usp=

Social Studies - Discovery TechBook

http://www.discoveryeducation.com/

Current State Instructional Technology Standards (based on ISTE standards)

- Creativity & Innovation
- Communication & Collaboration
- Research & Information Fluency
- Critical Thinking, Problem Solving, Decision Making
- Digital Citizenship
- Technology Operations & Concepts

Common Core Standards (introduced to teachers in 2013)

- Grades K-2 **Digital writing experiences** (explore a variety of digital tools to produce and publish writing)
- Grades 3-5 **Online writing experiences** (use technology to produce and publish writing, as well as to interact and collaborate with others)

Revised State Standards

- being voted on Nov 17 DESE
- Digital Literacy and Computer Science Standards (DLCS)
- bringing more computer science concepts to the lower grades (coding & programming)