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

THE WORLD OF SPACE
- Fun Activities like Drawing Contest, Poems, and Bookmark Page.
- 10 Facts all about Space.
- Feature Article: What is a Solar System?
- $9.99

THE VACCINIUM: CRANBERRIES
- Feature Article: Cranberry Harvesting Through the Ages.
- Exclusive Interview with cranberry expert and Ph.D. Carolyn DeMorineville.
- $7.39

Beyond The Rainforests
- Feature Article About Deforestation.
- Interview with Jane Goodall.
- 10 Outstanding Facts About Marmosets and Tamarins.
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

<table>
<thead>
<tr>
<th>Departure Point</th>
<th>Arrival Point</th>
<th>Miles</th>
<th>Subaru Outback MPG</th>
<th>Gallons of Gas Used</th>
<th>Cost of 1 Gallon of Gas</th>
<th>Cost of Trip</th>
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<td>Concord, Massachusetts</td>
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<td><strong>TOTALS</strong></td>
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<td>209.73</td>
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Can money buy you a World Series trophy?

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

<table>
<thead>
<tr>
<th>Baseball Team</th>
<th>2014 Average Ticket Cost</th>
<th>2014 Average Attendance Per Home Game</th>
<th>Average Money Made Per Game</th>
<th>Average Money Made Per 81 Home Games</th>
<th>Difference between team and NY Yankees</th>
<th>World Series Championships since 2000</th>
<th>World Series Appearances since 2000 without winning</th>
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<td>New York Yankees</td>
<td>$51.55</td>
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September Weather Blues?

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

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<thead>
<tr>
<th>Date</th>
<th>Bedford (High Temp)</th>
<th>Orlando (High Temp)</th>
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<tr>
<td>09/14/12</td>
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<td>84</td>
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</table>

**Bedford**
- Maximum: 84
- Minimum: 68
- Mean: 78
- Median: 79
- Mode: 82
- Range: 16

**Orlando**
- Maximum: 91
- Minimum: 84
- Mean: 89
- Median: 90
- Mode: 91
- Range: 7
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
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.
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)