

Beecher Road School - Preparing Future-Ready Learners through Purposeful Technology Integration



BOE Presentation - Jeanne Ciarleglio and Rachel Robinson

The Technology Curriculum is...



Rooted in our Mission:

Developing flexible, lifelong learners
Cultivating responsible global citizens

Guided by our Vision:

Empowering and inspiring future leaders
Technology serves as a strategic tool to advance these
priorities

Standards Based:

Combining ISTE, CSS, and Common Core Standards

Instructional Philosophy

Technology at Beecher Road School:

- **Augments, enhances, and supplements learning**
- **Is integrated with clear instructional purpose**
- **Supports student-centered, high-impact teaching practices**
- **Emphasis on intentional use aligned to learning outcomes**
- **Carefully scaffolded lessons explicitly taught during technology classes to create transferable skills**



A Helicopter View of Formal Technology

Class Topics Includes:

- **Hardware**
- **Software**
- **History of Tech**
- **Internet**
- **Coding**
- **Robotics**
- **AR/VR**
- **3D Printing**
- **Digital Creation**
- **Digital Citizenship***
- **Typing**
- **Presentation Skills**
- **Artificial Intelligence***
- **Digital Storytelling**



***Digital Citizenship Highlight**

- **Internet Safety**
- **Cyberbullying**
- **Private Vs. Personal Information**
- **Real Vs. Fake Websites**
- **Copyright**
- **Digital Footprint**
- **Password Best Practices**
- **Malware**
- **Phishing**

***Artificial Intelligence and Student Literacy**

Grade 4-6 comprehensive overview includes:

- **What is AI**
- **How it learns**
- **Pro's and Con's**
- **LLM (Chatbots)**
- **Societal Impact**
- **Deep Fakes**
- **Environmental Impact**

Creating a Scaffolded Scope and Sequence - The Planning Process

	K	1	2	3	4	5/6
Hardware 1	Mouse/Key/ MouT, iPad Headphones Name, type, price →		(troubleshooting - informal)		Hardware Components circuits	"ON + WIn" Chromebook
Software 2	Launch, quit, navigation, how to choose an app, escape, in screen options		Google tools	Advanced google tools		Keyboard shortcuts, google reminders
AI 9	→		AI Fundamentals/PJ/ security			
History (people/devices) 3	Women History (GRACE H.)	Hispanic History (ELLEN)	Women's History (Grace H.)	Leading Men/Women's History (ASAP)	Black History Hispanic History (JERRY/ELLEN/KATH)	Black History Women's History
Internet 10			Internet searching (J)		How the internet works	network security/ best practices (also DC)
Coding 4	Keypad - Loops, functions, seq., conditions, debugging			Game building based on prior knowledge + Creativity	JavaScript	HTML C, C++, Python, etc...
Robotics 5	Mouse - problem solving, hardware, sequencing, collaboration, engineering		Orchids → (R)	Disrupts - coding, engineering, collaboration, creativity, problem solving, robotic components	CODING LANGUAGES	Further Robotic exploration based on background knowledge
3D printing 11			CAD MODELING FUNDAMENTALS WORLD IMPACT PURE Creation/Support files (A)	CAD/SLICING/PRINTING 3D real world applications	M.I.S.S. Integration, engineering, fix a real world problem / cross curricular option, all grade levels, for 1st-8th grade science	
Digital Creation 6	Drawing Pad, Scratch Jr, iBbble Go Creation * ISDE I-6a, I-6b, I-6c, I-b-cs #2, I-b-AP #2			Tinkercad + grade 2		Itanovic, G suite, CANVA, Ruble Goldburg
Digital Art 7	Personal Security Balancing Screen Time	Digital Footprints	PD II (R)	Typing club digital content Level 1 (R) Full course	Real world business Cyberbullying Full course	Malware Pushing social media Rational
Typing 8		Typing Club		reinforced		Data Analysis AR
OTHER FIN IN	CRACODS POWER AR		VA (R)	Presentation SKILLS (A-C) →	Copyright Ownership of Digital Accessibility content	

Creating & Demonstrating Learning

- **Students express understanding through multiple modalities:**
 - **Multimedia presentations**
 - **Video production**
 - **Digital publishing**
 - **Interactive applications**
 - **3D modeling**
- **Expands assessment beyond traditional measures**
- **Deepens engagement and conceptual understanding**

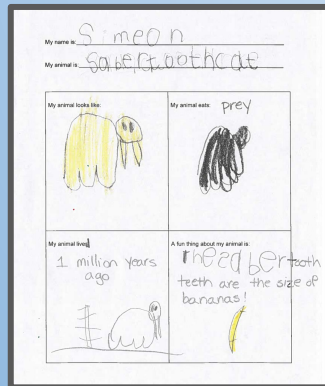
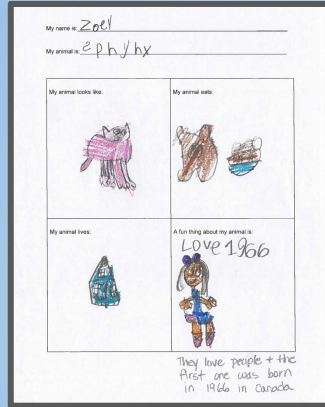
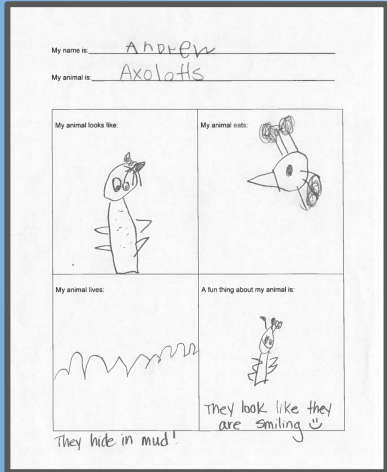
Technology & Project-Based Learning

- **Technology is integral to our Project-Based Learning (PBL) framework**
- **Students leverage technology to:**
 - **Conduct research on authentic, real-world topics**
 - **Engage in inquiry and problem-solving**
 - **Collaborate and communicate effectively**
 - **Share their learning**
 - **Promotes student agency, voice, and ownership of learning**
 - **Increase family engagement**

Technology in Action



Kindergarten Research Projects and Coding Creations



Skills focused on include:

- Databases
- Credible sources
- Navigation skills
- Digital creation
- Hardware vs. Software
- Formatting
- Intro to Robotics & Coding

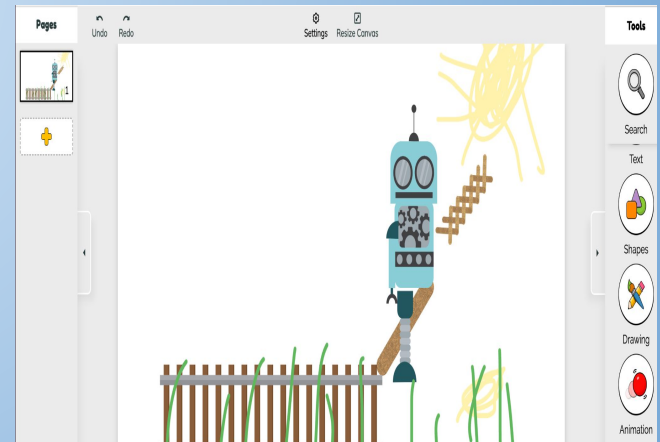
Transferable skills - used cross curricularly in art and in their classroom for additional projects - is a building block for future exploration

First Grade - PebbleGo Create

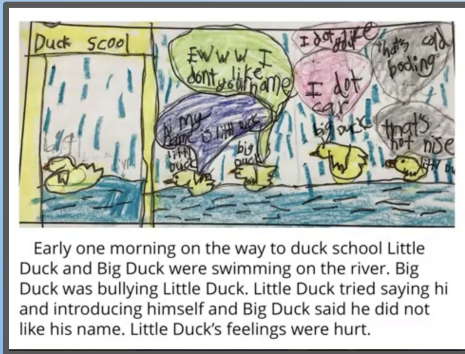
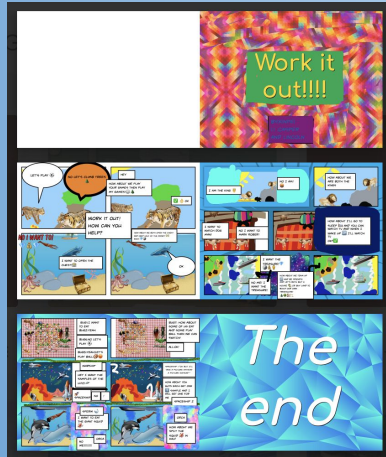
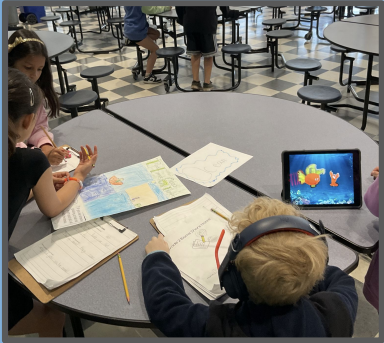
First grade is a natural progression and reinforcement of skills introduced in Kindergarten

- Databases
- Coding
- Navigation Skills
- Digital Creation
- Problem Solving and Collaboration
- Directional based coding
- Intro to Typing

Transferable skills - used cross curricularly in art and in their classroom for additional projects



2nd Grade Tech Integration - PSA & Biome Projects



New skills focused on include:

- Uploading and downloading
- Google Navigation
- Software choices
- Advanced digital Creation
- Collaborative work
- Presentation skills
- Formal Typing Instruction

Transferable skills - understanding how to combine multiple applications, upload a project, share work, and basic presentation skills

3rd Grade - Animal Research Projects and Google Tools

New skills focused on include:

- Advanced Google tools
- Introduction to CAD Modeling
- Greenscreen use
- Advanced digital Creation
- Research tools
- Presentation skills
- Block-based coding is introduced

Transferable skills include advanced formatting, design tools, editing, and more advanced presentation tools

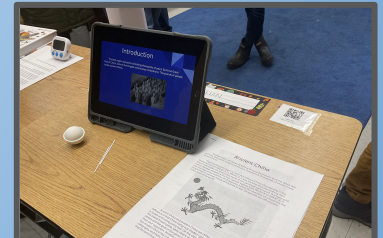
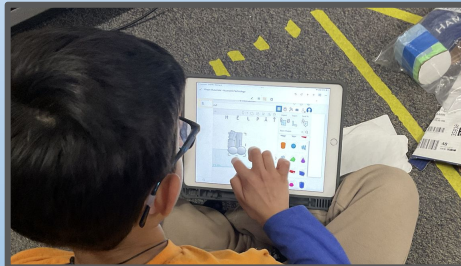


4th Grade - Non-Fiction Research Tech Integration & Accessibility PBL Technology Project

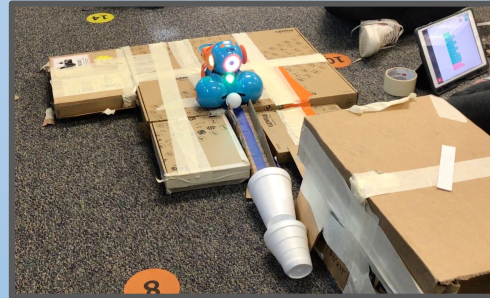
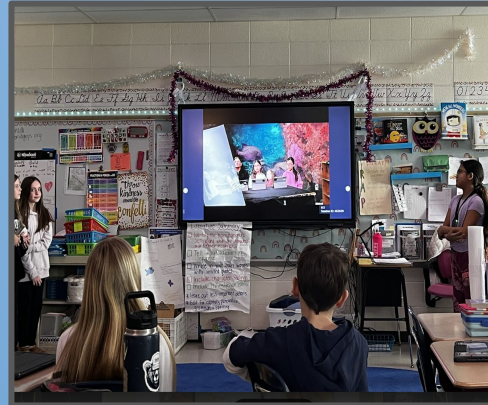
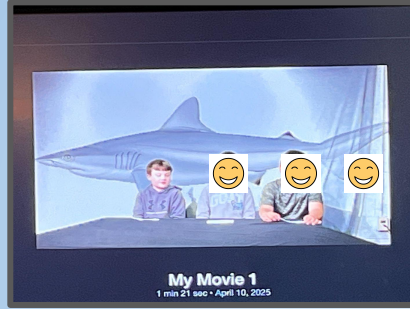
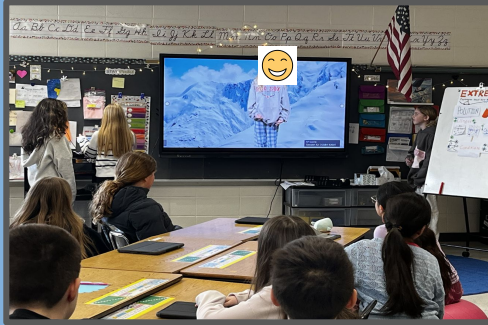
New skills focused on include:

- Research how technology helps others
- Designing a prototype
- More advanced written document formatting
- Advancing CAD modeling skills

Transferable skills include design tools, creativity, problem solving, finding copyright free images and collaborative work strategies



5th Grade - RBA Projects, Robotics, and Collaboration



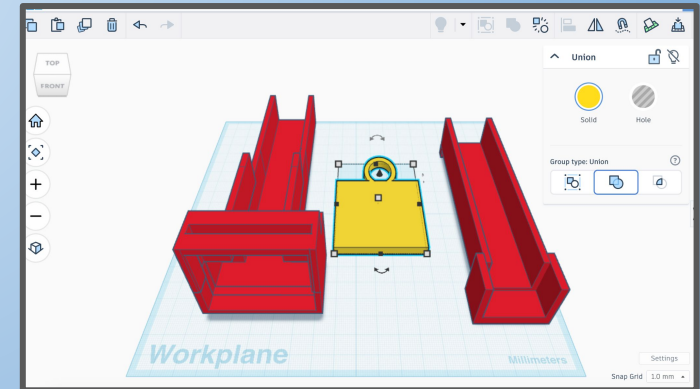
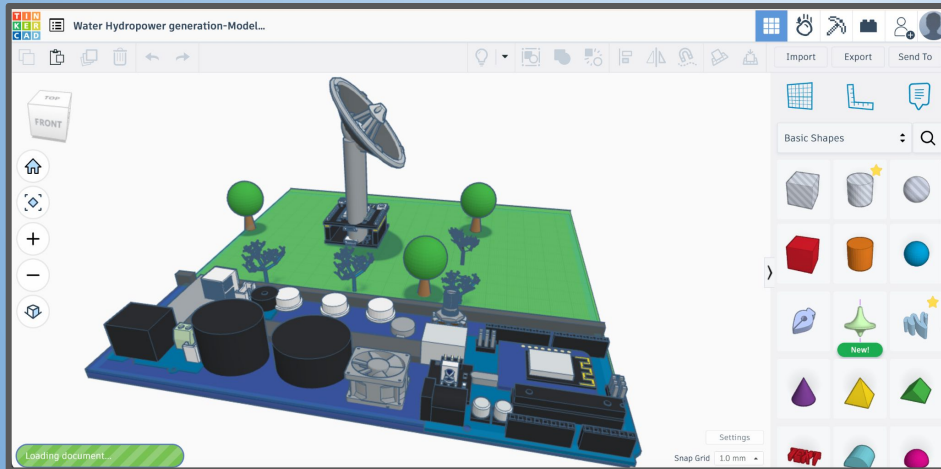
New skills focused on include:

- Advanced Canva
- Advanced Robotics
- iMovie
- Garage Band
- Collaborative presentations
- Advanced Robotic/coding
- Chromebook use

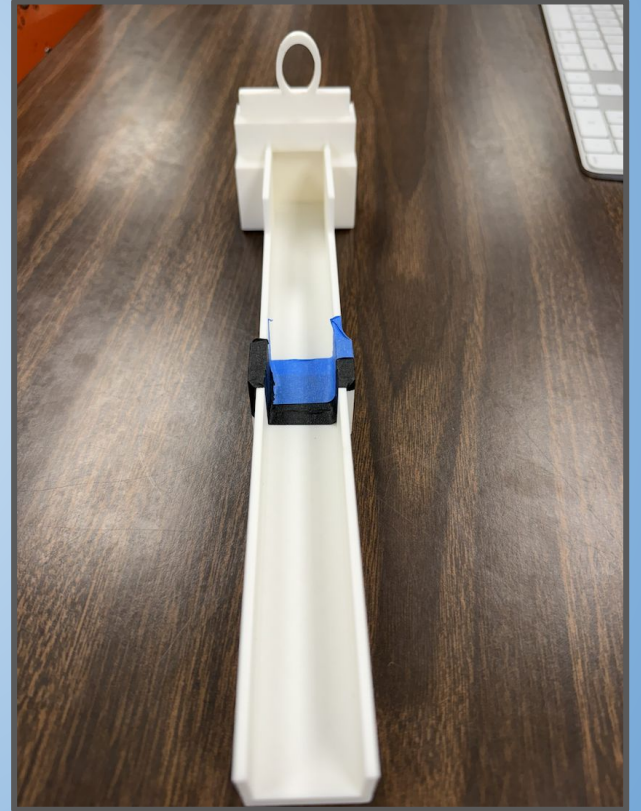
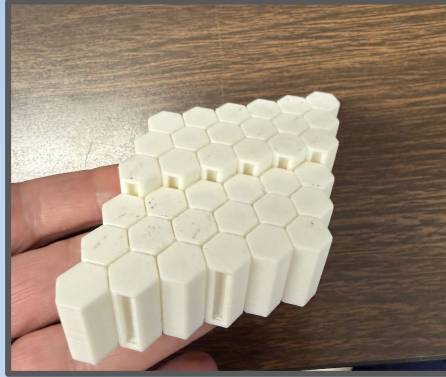
Transferable skills build upon the foundational skills taught in Grades K-4, and include navigation and use of new hardware

5th Grade - Science and 3D printing

Outside of formal technology classes - students have a strong foundation in CAD modeling. Classroom teachers begin allowing students to utilize their skills as an option to show their learning in science class!



Science prototypes come to life



6th Grade Technology Integration and PBL opportunities:

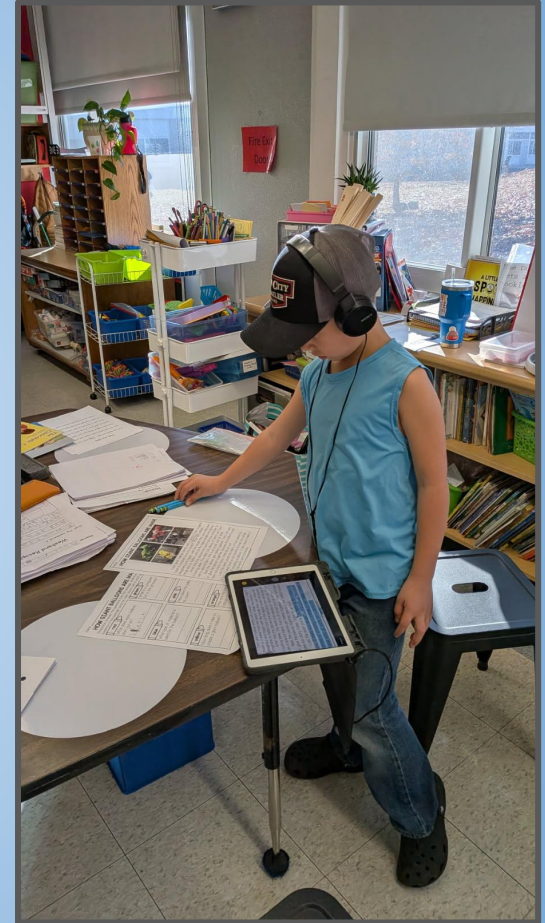
- **3D printing with literacy**
 - Illustrating key elements in the book
- **Ozobots with math**
 - Plotting coordinates
- **Augmented reality and science**
 - Plants
 - Parts of the body
- **3D printing and science**
 - Snowflakes
- **iMovie and social studies**
current events

And of course...

THE BRS NEWS

iPads and Accessibility for All Learners

- iPads include embedded accessibility features by design
- Ensures equitable access to curriculum and instruction
- Supports a wide range of learning profiles and needs
- Advances inclusive practices across all classrooms
- Empowers students to access materials independently
- Integrated tools include:
 - Text-to-speech and speech-to-text
 - Adjustable display and visual supports
 - Guided access and focus features
 - Audio supports and captioning
- Ability to granularly control student access to limit distractions



Meaningful Enrichment Opportunities

- Enables differentiated and personalized learning pathways
- Provides opportunities for extension, exploration, and creativity
- Expands access to diverse, high-quality resources
- Encourages curiosity, innovation, and deeper inquiry



Development of Transferable Skills

- **Communication and collaboration**
- **Critical thinking and problem-solving**
- **Digital literacy and responsible use**
- **Adaptability and self-direction**
 - **These skills are essential for continued academic success and future readiness**



Preparing Future Ready Students

- **Students develop as:**
 - **Independent, self-directed learners**
 - **Analytical and reflective thinkers**
 - **Creative and innovative problem-solvers**
- **Equipped to:**
 - **Navigate complex information environments**
 - **Contribute meaningfully in a global society**



Beecher Road School is committed to preparing students not only for the next level of education—but for the future they will help shape. Technology is not a replacement for instruction—it is a force multiplier for effective teaching and learning



Moving Forward...

- Thank you for accepting a formal replacement schedule for hardware
- Consideration of BOE policy for :
 - Artificial Intelligence
 - Device breakage/Insurance
 - Student use of social media
- Continued opportunities for professional development
- BOWA district collaboration for technology
- Opportunities for community conversations

