

Beecher Road School

Technology Department

Scope and Sequence

2024-2025

Summary:

Beecher Road School takes pride in providing a rich technology curriculum that begins with our Kindergarten students. Beecher Road School is a caring, creative community that models and inspires the joy of lifelong learning, embraces diversity, and celebrates the unique qualities of each person. Our vision is to provide a dynamic educational environment that challenges and empowers students to persevere as innovators and collaborators in preparation for their role as responsible global citizens. We believe that:

- All students can learn and it is the responsibility of our school system to provide the support needed to reach high standards and success.
- The skills and attributes needed for success in the 21st century include critical thinking, collaboration, creativity, curiosity, problem solving, and citizenship.
- Meeting academic, artistic, behavioral, social, emotional, and physical needs is essential in educating the whole child.
- We have a responsibility to prepare our students for a rapidly changing world that includes the integration and use of technology.

This list is a general and chronological overview of the lessons taught in each grade level. When possible, lessons are project based and combine directed lessons and hands-on exploration. All lessons are scaffolded and sequenced, and are based on both ISTE (International Society for Technology in Education) and CSS (Computer Science) Standards.

Information on ISTE standards for students can be found [HERE](#)

Information on CSS standards can be found [HERE](#)

For additional information - you may contact the Technology Specialists at:

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Kindergarten:

- **Lab introduction**
 - Expectations/Rules/Equipment
- **iPad use**
 - How to hold the iPad
 - Travel with the iPad
 - Appropriate apps
- **Navigation Skills -Starfall**
 - Navigation of a website or app
 - Closing an application on an iPad
- **Hands on Technology with Osmo**
 - Tangrams
 - Numbers
 - Letters
- **Digital Tools - Drawing Pad**
 - Drawing Pad on iPads
 - How to change backgrounds/stickers
 - Complete project
- **Computer use**
 - Computer login
 - Mouse and keyboard skills
 - Basic browser navigation
- **Database Navigation - PebbleGo!**
 - Buttons/tabs/topics/filters/home button
 - How to play/pause/full screen/esc button
 - How to locate and use a book
 - Research project - Animals
- **Robotics**
 - Hands on directional coding
 - Proper use and robotic centers
- **Coding fundamentals - Kodable (iPads and Computers)**
 - No Shortcuts!
 - Bugs/debugging
 - Conditions

- Loops
- Properties
- **Hardware vs. Software**
 - Drawing Pad
 - Starfall
 - Lexia
 - Watch & Learn
 - Kodable

Grade 1:

- **Lab Introduction /Parts of the Computer**
- **Reinforcement of Kindergarten skills**
 - Hardware vs. Software
 - iPad use
 - Computer use
- **Hands on Technology with Osmo**
 - Tangrams
 - Numbers
 - Letters
- **Digital Tools - Drawing Pad**
 - Tools and navigation
 - Backgrounds
 - Adding text, resizing, deleting
- **Signing into the Computer**
 - Access and navigation using Starfall
- **Robotics - Beebots**
 - Directional based coding skills and problem solving skills
- **Augmented Reality**
 - Quiver
 - WWF
 - Mission to Mars
- **Coding**
 - **Kodable**
 - Reminders and reinforcement of key coding concepts taught in Kindergarten (see above)
 - **Scratch JR**
 - Create an interactive book using directional and block based coding
- **PebbleGo**
 - Database navigation
 - Research skills
 - Presentation Skills
- **Digital Citizenship Jr -**
 - Internet Safety

- **Balancing Screen time**

Grade 2:

- **AUP and iPad Deployment**
 - Proper usage
 - Tech rules
 - Whole school rules
- **iPad Scavenger hunt**
- **Intro to the G-Suite**
 - Basic navigation and problem solving
- **Drawing pad**
 - Tool refresher
- **PuppetPals**
 - Full tutorial and mini project
- **Book Creator**
 - Full tutorial and mini project
- **Typing Club**
 - Ergonomics
 - Homerow
 - Accuracy and speed
- **Black History Month**
 - Hidden figures
 - Use of Nearpod
- **Women's History Month**
 - Grace Hopper
- **Scratch Jr**
 - Refresher on coding concepts taught in K/1
- **Kodable**
 - Refresher on coding concepts taught in K/1
- **Osmos**

Grade 3:

- **AUP and iPad Deployment**
 - Proper usage
 - Tech rules
 - Whole school rules
- **Google Docs**
 - Formatting Tools
 - Inserting images
 - From the Web
 - From Photos
- **Google Slides**
 - Advanced Skills on iPads
 - How to add images using drawing pad, photos or web images
 - Advanced Skills on Computers
 - Adding images
 - Using shapes
 - Moving/resizing/cropping
- **Shapegrams Project**
 - Reinforce Google Slide Skills
 - Presentation skills
- **Thankful project**
 - Reinforce Google Doc/Slide skills
 - Presentation Skills
- **Hour of Code**
- **Scratch**
 - Intro to more advanced, block based coding skills
 - Creation of a completed code
 - Presentation via a Gallery walk
- **Robotics**
 - Hands on coding skills using block based coding
 - Maze building and small group problem-solving
- **3D Printing**
 - CAD modeling
 - Alignment

- Duplication
 - Mirroring
 - Resizing
 - Scaling
- Real world applications
 - Homelessness, animal and human prosthetics, food, space travel
- Creation of 3D model to match animal adaptation project
- **All year - typing reinforcement in classrooms**

Grade 4:

- **AUP and iPad Deployment**
 - Proper usage
 - Tech rules
 - Whole school rules
- **Lab Rules/Seating Assignment/iMac Navigation**
- **Digital Citizenship - Internet Safety**
 - Internet Safety 1
 - Internet Safety 2
 - Internet Safety 3
- **Hispanic Heritage Month**
- **Typing Club Intro**
- **Digital Citizenship - Cyberbullying**
 - Digital Citizenship Comic
- **Digital Citizenship - Artificial Intelligence**
- **Hour of Code**
- **Typing Club**
- **Digital Citizenship - Malware**
 - Malware Monsters
- **Black History Month- Jerry Lawson**
- **Digital Citizenship - Phishing**
 - Phishing Quiz /Jeopardy Game
- **Digital Citizenship - Real VS Fake Websites**
 - Identification skills including but not limited to
 - URL Suffixes
 - Safe Search techniques
 - Image manipulation
- **Digital Citizenship - Copyright**
- **Digital Citizenship - Digital Footprint**
- **Digital Citizenship - Balancing Screen Time**
- **Coding reinforcement (throughout the year)**
 - Hour of code
 - Scratch
 - Osmo

Grade 5:

- **AUP and iPad Deployment**
 - Proper usage
 - Tech rules
 - Whole school rules
- **Website Design #1**
 - Careers In Tech
 - Career in Tech Website Week 1-4
- **HTML**
- **Coding**
 - Scratch - review of grade 3 concepts and advanced skill mini lessons
 - Coding presentations
- **Robotics**
 - Review and advanced skill intro
 - Creation of advanced mazes with obstacles for peers to complete
- **3D Printing**
 - Review and advanced skill intro
 - Creation of an object with moving parts
- **Capstone Intro**
 - Capstone Creation
 - Flip! Skills for video editing
 - Capstone Presentation

Grade 6:

(no formal technology classes - technology embedded into the curriculum)

Completed in August Every Year:

- **AUP and Chromebook Deployment**
 - Proper usage
 - Tech rules
 - Whole school rules

Potential Integration Opportunities and Topics:

- **VR Experiences**
- **3D Printing integration with ELA**
- **Mapping and Graphing with Ozobots**
- **Coding with Code.org and Kodable Creator**
- **Robotics with Cue and Dash**
- **Circuits**
 - **Little Bits**
 - **Cubelets**
 - **MakeyMakey**
 - **Snap Circuits**

Digital Citizenship -

- **Internet search**
- **PII (Personally Identifiable Information)**
- **Social Media**
- **Internet Biases**

Other items:

- **Virtual Reality**

- **Artificial Intelligence**
- **Neural Networks**
- **Cloud Computing**
- **Chat Bot**
- **Augmented Reality**
- **Generative images**