FOLSOM SCHOOL DISTRICT

TECHNOLOGY PLAN

2018-2021

Approved by Folsom Board of Education

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This 3-year Technology Plan was prepared for the

Folsom Board of Education

by the

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Table of Contents

I. Purpose of the Technology Plan 2018-2021

The purpose of this plan is to guide our district's planning, budgeting, and professional development over the next three years, taking a systems approach to the role of technology in instruction, integration, and infrastructure. It identifies where we are now, where we want to be, and how we will get there.

II. Technology Vision and Mission

Folsom School District envisions that technology is immediately available and supported for all staff and students:

- to meet the curricular needs of all learners in a blended learning environment
- to enhance student engagement and collaboration as part of the learning process
- to use technology to enhance creative and innovative problem solving
- to improve critical thinking and foster creativity
- to develop ethical values with regard to the use of technology
- to address diverse learning styles
- to be used for formative assessment to improve academic achievement
- to master the necessary technology skills as demanded by the workplace and society
- to improve staff and student efficiency allowing time for more active learning
- to provide universal access to information and be able to assess and share that information

A key part of our District's Mission Statement is to "encourage students to approach learning as problem-solvers, designers, and creators by providing access to the technologies, tools, and resources needed to achieve their goals." This Technology Plan provides guidance in terms of access to the tools of technology and instructional approaches required to meet the goals of our vision and mission.

III. Technology Integration and Instruction

A. Blended Learning (See Appendix A - Action Plan III.A for Recommendations)

Blended learning is an instructional practice that empowers educators to use the appropriate tools to support personalized pathways for learning. For example, blended learning environments can support flexible pacing, differentiated instruction, immediate interventions and "anytime, everywhere" learning.

Blended learning can be defined as "…any time a student learns, at least in part, at a supervised brick-and-mortar location away from home and, at least in part, through online delivery with some element of student control over time, place, path, and/or pace. The modalities along each student's learning path within a course or subject area are connected to provide an integrated learning experience" (International Association for K-12 Online Learning).

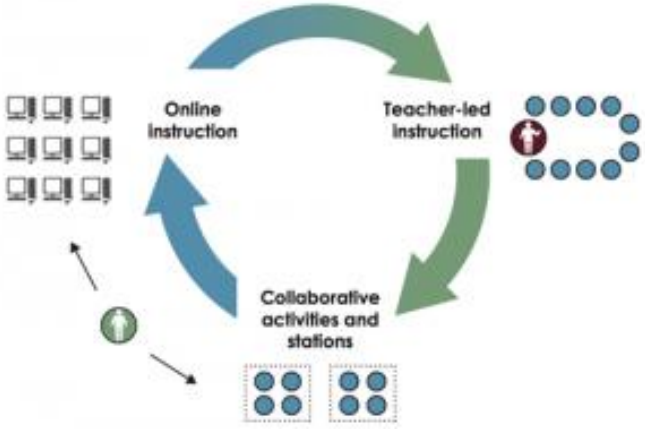
The most important component of the definition is the "element of student control" emphasizing shifting instructional models to enable increased student-centered learning, while giving students increased control over the time, place, path, and/or pace of their learning.

Blended learning offers a rational approach, focused on redesigning instructional models, for high quality learning experiences that allow a teacher to personalize and maximize learning. Technology is not the driver of the instructional model, but is the enabler.

As a district we are in the beginning stages of implementing a blended learning environment. We will adopt the Rotation Model of blended learning, incorporating a mix of the following programs:

- Station Rotation
- Lab Rotation
- Individual Rotation

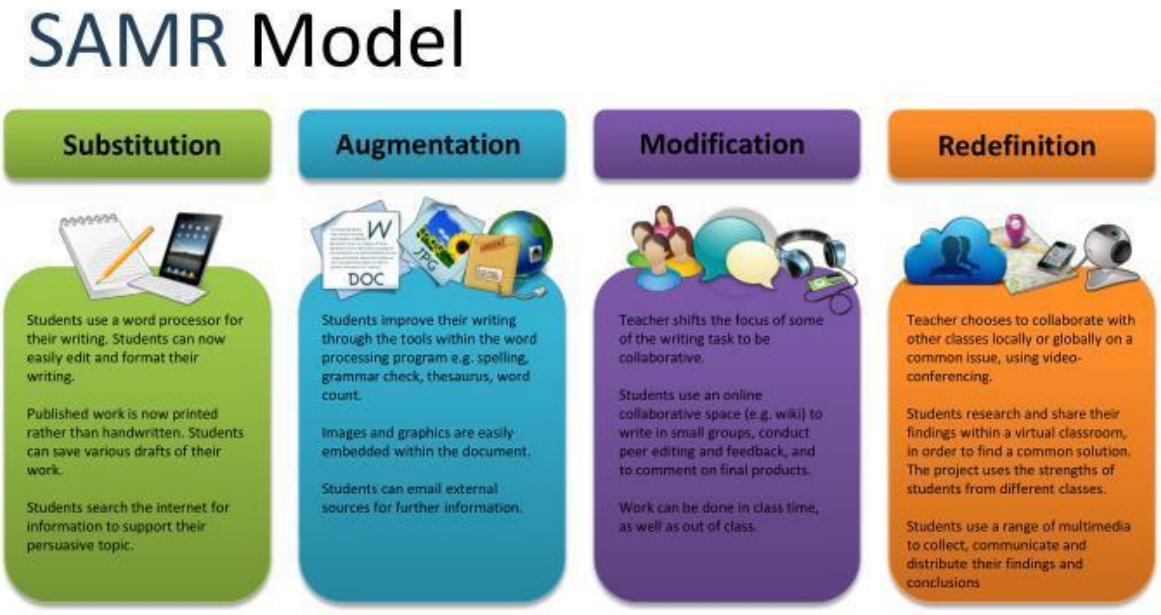
Our goal is to move to an instructional model with a balance between teacher-led instruction, collaborative activities, and online instruction.



B. SAMR Model (See Appendix A - Action Plan III.B for Recommendations)

SAMR is a model designed to help educators infuse technology into teaching and learning. The model supports and enables teachers to design, develop, and infuse digital learning experiences that utilize technology. The goal is to transform learning experiences so they result in higher levels of achievement for students (www.schrockguide.net/samr.html).

We will adopt the SAMR model for technology integration as a district. Based on our assessment from classroom observations, reviewing lesson plans, and teacher feedback, the majority of teachers use technology in either the Augmentation or Modification level in the SAMR model. Professional development and support for teachers over the next three years will work to attain the Redefinition level of the SAMR model.



C. Google Classroom and 1:1 (See Appendix A - Action Plan III.C for Recommendations)

A 1:1 environment provides an avenue for staff and students to function successfully in a blended learning model. Utilizing the inquiry process in a 1:1 environment provides educators and students more opportunities to showcase authentic student work. It provides the opportunity to significantly enhance the 21st century skills that include critical thinking, creativity, collaboration, and communication skills. Having one platform enables teachers to focus on instructional practices rather than addressing device-related compatibility or implementation issues related to devices. Together, this will enable our teachers to guide students in their transition from being consumers to creators of information.

D. Curriculum Materials/Tech Books (See Appendix A - Action Plan III.D for Recommendations)

Tech books are currently being used in the middle school (grades 6-8) in the areas of Mathematics and Social Studies. Technology-based instruction can reduce the time students take to reach a learning objective by 30-80%, according to the US Department of Education and studies by the National Training and Simulation Association. In the 2017-2018 school year, FSD rolled out the 1:1 Chromebooks in middle school, the tech books were also implemented. FSD is currently using Discovery Education as the vendor.

Techbooks give users the ability to highlight and edit text and write notes without ruining a textbook for the next user. Techbooks have a search function, a backlighting option to read in low light, and a built-in dictionary. Interactive diagrams and videos increase student creativity, motivation, attentiveness, and engagement with classroom materials.

Implementing the 1:1 in FSD required purchasing hardware (the Chromebooks) and software (the techbooks), building new wi-fi infrastructure, and training teachers and administrators how to use the technology.

In the 2018-2019 school year, the Chromebooks will continue to be utilized as a curriculum resource. Teacher professional development will continue and technology will enhance the hands-on and traditional teaching that FSD currently offers.

E. Software/Apps/Online Resources (See Appendix A - Action Plan III.E for Recommendations)

With the arrival of cloud-based applications and online resources, Folsom School District has shifted from software package purchases to online subscriptions. Many of the software items that support our K-8 curriculum have been replaced by apps. Staff has access to Microsoft 365; both staff and students access Google Apps for Education, engaging in an online learning environment and collaboration tools. Instructional software will continue to be purchased and installed on district devices; for example, Adobe Photoshop is used for Digital Photography and Graphic Design courses. The district protocol for a software request is an area in need of improvement as system requirements continue. (See Appendix B for annual costs)

F. Single Sign-on System (See Appendix A - Action Plan III.F for Recommendations)

Single Sign-on (SSO) prevents login frustration and saves time. SSO methods provide flexibility and choice, making it easier for students and faculty to access their school accounts.

- Reduce the number of usernames and passwords needed.
- Enable sign-on to multiple platforms or resources quickly and easily, without complications or compromising security.
- Increase instructional time and usage due to ease of sign-on

G. Student Information System (See Appendix A - Action Plan III.G for Recommendations)

Student Information System (SIS) is a web-based application software designed to introduce a conducive and structured information exchange environment for integrating students, parents, teachers, and the administration across the school district. Folsom School currently uses Real Time Student Information System. This system is used for the following:

- Student Attendance and Enrollment
- Student Lunch Program – Federal Programs and Lunch Accounts
- Student Discipline Reporting
- Student Health Records
- Parent Portal
- Mass Notification System (Emergency and Special Announcements)
- Before and After School Care Program
- Special Education Module (IEP/Goal and Objective Monitoring)
- 504 Module
- I&RS Module
- Gradebook
- Lesson Planning
- Teacher Observations and Evaluations
- Teacher SGO Submission and Approvals
- NJSMART and Federal Reporting
- ASSA and NJ State Reporting

H. Professional Development (See Appendix A - Action Plan III.H for Recommendations)

Professional development (PD) will be provided through a comprehensive district-wide focus as well as through school-based efforts. Our school strives to offer professional development opportunities through a variety of ways. Our district Professional Development Plan is revised annually and approved by the Folsom Board of Education. It includes the following:

- Professional development during in-service days, faculty and departmental meeting time, common planning time, and out-of-district as appropriate.
- Professional development that is differentiated to meet the individual needs of our teaching staff based on survey feedback and identified in teacher PD Goals.
- Professional development that uses a blended approach to learning that includes direct instruction, webinars, and self-paced learning modules.
- Professional development that encourages staff members to work at their own pace to build skill sets.
- Professional development that utilizes the in-house expertise of administrators, technology coordinator, and/or teaching staff to turn-key skills.
- Professional development that is evaluated and revised based on feedback from staff.

Goals for our technology-related professional development are:

- Teachers will be able to access and apply instructional technology as an integral tool to enhance teaching and learning.
- Teachers will be able to develop inquiry-based lessons using technology.
- Teachers will be able to recognize and use instructional technologies for teaching critical-thinking, problem-solving, and inquiry-based skills to enhance student achievement.

I. Cyber Safety (See Appendix A - Action Plan III.I for Recommendations)

Folsom School District has a board approved Acceptable Use Policy (6142.10) that is available on the district web-site with key components provided annually in the Parent/Student Information Guide. Cyber safety instruction is embedded in our K-8 technology program and is consistently referenced during all classroom lessons involving student access to the Internet. Cyber safety and digital citizenship topics are included for all students of media and technology programs, including Digital and Graphic Arts. All students, as part of the middle school 1:1 program, will be provided with a cyber safety review as part of the new school year.

The Folsom School District offers parent information annually that engages parents on specific technology topics including cyber safety. A video series, “Digital Citizen,” designed to increase parent awareness of issues related to student use of social media is available on our school website. Members of the New Jersey State Police Cyber-Safety Unit are invited to present information regarding the use of cell phones, apps, social media, and other related topics to both students and parents.

Folsom School District filters web content and SPAM emails.

Web Filtering is performed in compliance with Children's Internet Protection Act (CIPA) due in part to the district receiving E-Rate funding.

All devices using the district’s Internet connection (wired or wireless) are subject to web filtering. Devices using a cellular connection are not filtered since the district does not manage or provide any cellular connection to devices. District issued cell phones to staff are not managed by the technology coordinator and are considered outside the scope of this section of the technology plan.

The district makes use of a firewall and web server combined device (K12USA), which filters both wired and wireless connections and filters users based on being either Staff or Student. If users are using Windows based devices, authentication is required using Windows Active Directory, which is automatically passed along to the web filter when the user logs on to the Windows device.

Tablets, Chromebooks, or Staff personal devices are filtered based on the wireless SSID connection to which devices are connected. SSIDs are managed via the Meraki Cloud-based Wireless Access Point Controller, which is controlled by the technology coordinator.

An additional level of filtering is provided to students, due in part to, the Chromebook usage at home. When students take their Chromebook off the district's property, they are filtered using a cloud based DNS filtering technology (Securly). Regardless of whatever Internet connection a student is using, the Chromebook will be subject to the same web filtering as in school. The Chromebook policy is set to prevent students from using only their district issued user name. The filtering system will force filtering whenever the district issued user name is used. Securly is licensed until June 30, 2020.

The firewall (K12USA) applies only to in-school devices connected to the district's internet connection and this firewall is managed by the Technology Coordinator along with technical support provided by the vendor K12USA. Changes to the firewall rules are usually prompted by the addition of new applications or web subscriptions. These changes should be made based on the vendors of these applications or subscriptions, providing firewall rules changes needed for their systems to work. When a Windows device is used on the district domain, the Windows operating system's built-in firewall is disabled; however, when the Windows device is not on the district's domain, the Windows operating system's built-in firewall is enabled.

Email is provided by Microsoft Office 365 for Education and as such, spam filtering is performed by Microsoft's systems. Filtering can be adjusted by the technology coordinator using the Microsoft Office 365 for Education management console in the Exchange portion of the console.

J. FTN (Folsom Television Network) (See Appendix A - Action Plan III.J for Recommendations)

A student produced and teacher directed daily newscast provides opportunities for students to engage in real-world applications of technology using state-of-the-art tools. The studio is attached to the Computer Lab, where students control content, sound, and video using digital cameras and Tricaster. The Digital Arts (Computer Technology) teacher facilitates FTN as part of his/her instructional schedule. Students have access to studio time during recess and after school as members of the Technology Club.

The TriCaster is used along with IBM's UStream, which provides live streaming to the Folsom UStream channel. The Folsom channel facilitates classroom viewing of the morning announcements, but also viewing by parents or other interested parties of Folsom special events. Viewing can be controlled through an enable password. The technology coordinator administrators the UStream channel. Live streaming can also be performed on an iPad or other mobile device. The IBM UStream is an annual subscription costing $1,200.00.

K. K-8 Media Center & Technology, Engineering, and Design (TED) (See Appendix A - Action Plan III.K for Recommendations)

Students in grades K through 8 have direct instruction in courses aligned to New Jersey Student Learning Standards (NJSLS) 8.1 Educational Technology and 8.2 Technology, Engineering, Design and Computational Thinking, which work symbiotically to provide students with the necessary skills for college and career readiness. Digital Arts and Graphic Design courses are taught by the Computer Technology teacher. TED instruction is provided to K-5 students through the Talented and Gifted Enrichment program, and in grades 6-8 through Lego® robotics, 3-D design, and Minecraft® programs. Students in grades K-5 meet with the school media specialist once a week for instruction. The school media specialist provides both formal and informal opportunities for students to enjoy books and reading, borrow materials for their personal use, practice research skills, and become independent lifelong users of libraries.

The K-8 media center consists of books on shelves that can be checked-out, reference materials, small and large group instructional space, 25 laptops, and is located right next to the K-8 Computer Lab. Infusing education technology through the program, students learn to evaluate web resources for relevance, accuracy, and bias when researching. Students have access to high quality, high-yield search engines, subject directories and databases, and learn the ethical use of information.

"Advances in technology have drastically changed the way we interact with the world and each other. The digital age requires that we understand and are able to harness the power of technology to live and learn" (International Society for Technology in Education).

L. The Arts (See Appendix A – Action Plan III.L for Recommendations)

A long-standing and important element of our district's curriculum is our visual and performing arts program. Our student musicians, vocalists, and art and digital photography students continue on to high school with this as their focus. Real-world applications of digital technologies are practiced through Digital Photography, Graphic Design, and stage production (light & sound). In 2016, a rear-projection screen was installed on the retractable stage as an enhancement to performances, including seasonal concerts, the Spring musical, and International Day. Improvements to the sound system in the All Purpose Room have been supported through REAP funding, the Folsom Home & School association, and the drama student activity account. An LED spotlight was purchased to replace the incandescent spotlight that could not be operated by students for safety reasons. Students run both light and sound production during performances, learning real-world applications on the sound mixing board, light filters on spot, and controlling rear projection system.

Folsom Arts students participate in local and regional competitions and events. Field trips and student talents are regularly showcased for the community in the local Casciano's Café, the Teens Arts Festival, Highpoint Band Competition, and CNN video competition and othe.rs

M. Assistive Technology (See Appendix A – Action Plan III.M for Recommendations)

Assistive technology hardware and software is redefining what is possible for people with a wide range of cognitive and physical disabilities. Special education students, who have been identified as benefiting from having access to specific assistive technology application through an Individual Education Plan (IEP), will be supplied with the supports they need to be successful. The Folsom Child Study Team (CST), technology coordinator, and the Student Support Services team work together to identify, provide, and support students with the assistive technology required to meet their educational program goals. Assistive technology enables individuals with disabilities to be more independent, self-confident, productive, and better able to integrate into the mainstream classroom. The current subscriptions held are Snap & Read, Learning Ally, Dragon Naturally Speaking, Co Writer Universal, and Google Speech-to-Text.

IV. Technology Equipment and Peripherals

A. Chromebooks (See Appendix A – Action Plan IV.A for Recommendations)

The district has chosen Chromebooks as the preferred student device in grades 2-8 due to their seamless integration into the Google Apps for Education. These devices have a low administrative cost and can be centrally managed. The selection of the HP Chromebook model was based upon a desire to have minimum 14-inch screen size for students. HP is currently the only vendor with a 14-inch screen option. Dell Laptop or desktops are preferred for staff. Purchasing devices in large quantities allows for ordering spare parts and making repairs somewhat onsite.

B. iPads (See Appendix A – Action Plan IV.B for Recommendations)

Apple iPads have been used in the district since 2011. iPads are managed via Meraki Mobile Management (MDM) and Folsom is licensed for 150 devices until 2019. The inventory of iPads is a mix of the iPad2 and iPad Air. Apple has yet to confirm that the support for the iPad 2 will end, but it is believed that the iOS 9.3.5 will be the last iOS upgrade for the iPad 2. These iPads should continue to function, but some newer apps may not be able to be loaded on them (See list of Apps in Appendix C).

iPads are available in homerooms grades Pre-K to 5th grade. For 6th, 7th, and 8th graders iPads are available for special projects such as video recording and playback or applications that are otherwise unavailable to Chromebooks. (See Appendix D - Device Inventory for room locations)

C. Teacher Laptops/Computers (See Appendix A – Action Plan IV.C for Recommendations)

Every Folsom School teacher, including counselors and child study team members, is provided a laptop/computer. By supplying teachers with laptops, the district ensures productivity and access to web-based instructional programs and tools including the district's RealTime SIS for lesson planner, gradebook, professional growth and evaluation data, and parent communication. (See Appendix D for list of district devices and locations)

D. Classroom Projection/Interactive Boards/Document Cameras (See Appendix A - Action Plan IV.D for Recommendations)

Every classroom has an interactive whiteboard or Smartboard to enhance teaching and engage students in interactive learning. The Epson projector turns a whiteboard into a powerful tool for teaching and presenting.

In 2017-2018 the district purchased two Promethean Boards, which are a touch screen interactive whiteboard that projects an image from a laptop or a computer. The multiple-point of touch allows participation by more than one user, or one user using both hands to gesture, increasing opportunities for collaboration and development of 21st century skills. Epson projectors will be replaced with touch-screens similar to the Promethean option as projectors too costly to repair or maintain.

Each classroom has an overhead document camera/reader that is useful for working on a page in a workbook or textbook together with the whole class or displaying an image that would be impractical if held up in front of the students.

E. K-8 Computer Lab (See Appendix A – Action Plan IV.E for Recommendations)

The computer lab connects to both the Media Center and the FTN studio. The computer lab currently has 28 laptops with Windows 7 Pro Operating System. The Windows based computers provide students with experience in the Microsoft operating system in addition to the Chromebook environment they use daily.

There are four Apple iMacs that have 32 GB of RAM for video editing and for use along with the FTN studio equipment.

The computer lab also has a 24-inch wide format postal printer which teachers can use to create posters for their classrooms. The poster printer was purchased in part through donated funds by the Folsom Education Foundation and the Folsom Home & School Association.

F. Peripherals (See Appendix A – Action Plan IV.F for Recommendations)

Storage carts, charging cables, printers, toner, headphones, keyboards, mice, protective cases, various cables, speakers, device batteries, laptop docking stations, LCD flat screen projector bulbs, and projector filters all add significant support cost to any technology purchase.

Storage carts should be purchased in a manner that ensures that different device models can be used in the carts. For example: A Chromebook charging cart should be able to house a large

number of Chromebooks as well as a smaller number of devices such as iPads. Currently, Chromebook charging carts are located in the 3rd, 4th, and 5th grade homerooms. No charging carts are available for the 6th, 7th, or 8th graders since the students take their Chromebooks home each day and are responsible for making sure that their Chromebooks are charged. The current charging carts cost under $1,000 and can hold up to 35 devices.

We have various laptop charging carts that can hold 15, 20, or 24 devices. The 15 and 20 device carts can be refitted for use as Chromebook carts should they be needed.

Charging cables, regardless if for laptops, Chromebooks or iPads tend to be rather expensive at about $30.00 per device. Spare charging cables are readily available for most devices since spares have been purchased in the past. Since 6th, 7th, and 8th grade students take their Chromebooks home starting in September, and do not return them until June, the condition of the charging cable would need to be inspected for safety and functionality when the students return the cables with the Chromebooks at the end of the school year.

Each classroom and most offices have a laser jet printer available. Printing to an enterprise level MFP device (copier / printer / scanner) is available to staff. The technology coordinator manages the toner and confirms when toner needs to be changed in printers.

PaperCut is a print management system that the district is currently using to monitor and control print and copying. The administration will review the printing needs of the district based on the reports available in Papercut. Folsom, while recognizing that printing is required in certain situations, will continue to support electronic communication and a paperless environment, and will actively work to reduce printing costs.

Headphones are needed for PARCC and NJSLA-S assessments; as well as, general classroom use. Students have the option to use their own headphones. For the purposes of supporting PARCC and NJSLA-S, the district provides enough headphones for two to three grade levels to test at one time.

Protective casing for Chromebooks has not been purchased, as it would add significantly to the overall cost of the Chromebooks. Chromebooks cost $200.00 and protective casing costs $60.00. It is more cost effective for the district to purchase spare Chromebooks rather than purchase protective casing. For example, the cost of 150 cases would be $9,000.00, the same amount as 45 spare Chromebooks.

Apple iPads are protected with special casing since iPads cost more and the likelihood of the device being dropped is high.

Because the district provides either laptops or Chromebooks there is a reduced need for many of the other peripherals. Keyboards, mice, LCD screens, and docking stations are provided on a case-by-case basis as determined by the district administration.

Consumable peripherals such as projector bulbs, projector air filters, toner and printer maintenance kits are purchased in quantities, which reduces downtime. On-hand inventory is limited to fit available storage space, continued product use, and expiration dates.

V. Technology Infrastructure

A. Bandwidth (See Appendix A – Action Plan V.A for Recommendations)

Servers:

Folsom no longer provides any applications that are hosted on-site. The only server functions that are provided on-site are that of Active Directory functions, file server, print server, DHCP, Windows Server Update Services, Papercut Print Management, and AVG anti-virus client management. The district makes use of Dell Power Edge R720, running Windows 2012 R2 Microsoft Hyper-V server and is licensed for five Hyper-V instance (virtue servers). The district also has a Dell PowerEdge T610 running Windows 2012 R2 server, which can manage all critical network function on its own. Additional server hardware should be reviewed annually but this equipment in not eligible for E-Rate.

Switches:

The district's network switches are manufactured by Dell. The one core switch is 7024P and seven 5548P switches are located in the Computer Office IDF, Middle School IDF, Main Office IDF, and the Security Room IDF. All the switches are power over ethernet (POE) capable. POE powers the Access Points. Fiber optic cabling runs between all IDFs back to the Computer Office. In the past E-Rate funds have been used to upgrade the network switches. The switches were installed in the summer of 2012 at a cost of $25,000. There have been no problems with the switches. Given the age of the switches, their replacement should be reviewed annually and an outside vendor should be used for the configuration and installation. Switches are eligible for E-Rate discounts or rebates.

Internet Bandwidth:

The district upgraded the Internet bandwidth in to the building in the July of 2017 to a 500 MB fiber connection with Internet Clean Pipe - DDoS Protection. 500 MB exceeds the NJ DOE recommendation for a school the size of Folsom. Bandwidth daily average MAX usage is 30 MB during the most recent quarter. Uptime on the connection has been 100 % during instructional time. Our existing K12USA firewall is capable of handling bandwidth up to 1 GB, so no change in firewall hardware was required as a result of the bandwidth upgrade. Funding for the district's internet connection is eligible for E-Rate discounts.

B. Wireless (See Appendix A – Action Plan V.B for Recommendations)

The district's wireless network is a Cisco Meraki cloud base management system which allows for all of the Cisco Meraki wireless access points to be controlled through a internet connection web browser management console. The same console allow for management of the district MDM of iPads and app deployment. The management console also provides information on the wireless client devices connect to the wireless network.

The Cisco Meraki allows for remote support of the wireless network from Cisco or other network professional organizations.

During the summer of 2017 new access points capable of “802.11 ac” were installed in every classroom from the 3rd grade through 8th grades since the Chromebook could take advantage of the greater speeds provided by the “802.11 ac” access points. Our existing older access points which run “802.11 n” were moved to the Pre-K to 2nd grade classrooms since the devices is those classrooms are older and the speed of these devises match the speeds of these access points.

A total of 34 wireless access points are installed in the building. Eighteen of the access points are “802.11 ac” and 16 of the access points are “802.11 n.” All access points are required to be licensed with Cisco Meraki in order to continue to function. The devices are currently licensed until February 23, 2021. In the past, E-Rate funding has been used to pay for the upgrades to the wireless network including the licensing, which is considered a maintenance cost.

VI. Technology Staffing

A. Instructional (See Appendix A – Action Plan VI.A for Recommendations)

There is one K-8 computer technology teacher in the school, who also facilitates FTN and oversees production of various video projects as needed. The media specialist maintains the library, teaches library classes in K-6, and assists classroom teachers with identifying digital instructional materials, including Discovery Education. The teacher supports the elementary teachers with development of lessons and use of technology within the teacher’s unit of study.

B. Non-instructional (Operational Technology) (See Appendix A – Action Plan VI.B for Recommendations)

FSD has one technology coordinator who is available for staff and students to field technical and logistical problems that arise. Technology components that are not working correctly and software programs that need “debugging” can result in considerable frustration amongst teachers and students, creating a feeling that the technology is more of a hindrance than an asset.

Communication through various digital means is important to maintain home-school connections and support partnerships - both with parents and the community. The FSD web-site is maintained primarily by the Technology Coordinator, with contributing staff uploading content as needed. Parents can access calendars, forms, and the Parent Portal directly through the district web-site.

The district uses the Frontline Absence & Time platform to manage absence reporting and assignments, reducing paperwork and manual data entry. Teachers or district administration can assign substitutes and identify preferred substitutes through the automated system. Restrictions can be embedded within the system to stay compliant with labor laws.

VII. Review and Evaluation (See Appendix A – Action Plan VII for Recommendations)

The Folsom School District Three Year Technology Plan will be reviewed annually by the Technology Committee to ensure that the goals and objectives continue to be met, the allocation of resources to meet the goals and objectives is adequate, and the instructional

outcomes for students reflect the Vision and Mission of the district. Survey data, usage reports, and student progress indicators towards achievement of technology standards will be analyzed to evaluate the Technology Plan. Updates and/or revisions will be brought to the district Board of Education for approval and published on the school district website.

Appendix A

Folsom District Technology Action Plan

Technology Plan Component		2017-2018	2018-2019	2019-2020	2020-2021
Technology Integration and Instruction					
III.A	Blended Learning	1:1 Chromebooks in grade 6-8 with stations. Grades K-5 Daily Five Daily Three Cafe	1:1 Chromebooks in grade 6-8 with stations. Grades K-5 Daily Five Daily Three Cafe	1:1 Chromebooks in grade 6-8 with stations. Grades K-5 Daily Five Daily Three Cafe	1:1 Chromebooks in grade 6-8 with stations. Grades K-5 Daily Five Daily Three Cafe
III.B	SAMR Model	Technology PD Survey completed by instructional staff	Develop PD based on identified needs in staff survey. Provide on-going embedded PD to support district instructional goals for technology integration.	Provide on-going embedded PD to support district instructional goals for technology integration.	Provide on-going embedded PD to support district instructional goals for technology integration.
III.C.1	Google Classroom	ETTC hours for Google Classroom	Teacher will develop Instructional	Maintain and extend use of	Maintain and extend use of

		PD; Google trainer for in-service PD.	modules and implemented in grades 3-8 and all Special Areas. Continuing PD on Google Classroom.	Google Classroom for student learning. Teachers turn-key GC strategies during in-service days.	Google Classroom for student learning. Teachers turn-key GC strategies during in-service days.
III.C.2	1:1	District Chromebook® Policy developed and approved by BOE. Students in grades 6-8 participate in the Chromebook® pilot. Each student is provided with a Chromebook® for use at school and home.	All students in grades 6-8 will receive a Chromebook® for school and home use. The 2018 graduating 8th grade Chromebooks® will be assigned to 6th graders (Class of 2021).	All students in grades 6-8 will receive a Chromebook® for school and home use. The graduating 8th grade Chromebooks® will be assigned to 6th graders (Class of 2022).	All students in grades 6-8 will receive a Chromebook® for school and home use. New Chromebooks® will be purchased and assigned to 6th graders (Class of 2023).
III.D	Curriculum Materials/Tech Books	Discovery Education Techbooks purchased grades 6-8 (Math and Social Studies). 6 year contract. Continue use of online resources (i.e., BrainPop, Learning A-Z, Accelerated Reader,	Go Math K-5 Interactive online textbook for teachers and students. My World Interactive K-5 Social Studies. Hybrid Online and Textbook Series	Continue use of online resources (i.e., BrainPop, Learning A-Z, Accelerated Reader, Acellus, Tiggly, ST Math, Reflex Math, etc.)	Continue use of online resources (i.e., BrainPop, Learning A-Z, Accelerated Reader, Acellus, Tiggly, ST Math, Reflex Math, etc.)

		Acellus, Tiggly, ST Math, Reflex Math, etc.)	Both 3-year contracts. Continue use of online resources (i.e., BrainPop, Learning A-Z, Accelerated Reader, Acellus, Tiggly, ST Math, Reflex Math, etc.)		
III.E	Software/Apps/Online Resources	Pilot LinkIt assessment program in Grade 3.	Develop district software purchasing protocol. Run software usage reports for the purchased software to determine it is being fully utilized. Evaluate and pilot, where appropriate, applications to replace or enhance current software.	Run software usage reports for the purchased software to determine it is being fully utilized.	Run software usage reports for the purchased software to determine it is being fully utilized.
III.F	Single Sign-on System	Research and identify SSO system from among commercial vendors. Classlink	Professional Development for all staff to learn how to use this tool. Staff turn-key	Run analytics annually to determine district usage of software programs.	Run analytics annually to determine district usage of software programs.

		purchased.	learning this tool for student use. Run analytics annually to determine district usage of software programs.	Staff turn-key learning this tool for student use.	Staff turn-key learning this tool for student use.
III.G	Student Information System	Maintain annual license with RealTime. Attend technical workshops and updates provided by vendor.	Maintain annual license with RealTime. Training and support for teachers to develop "Teacher Pages" and use "Import and Export" for assessment data	Maintain annual license with RealTime.	Maintain annual license with RealTime.
III.H	Professional Development	PD & Technology survey completed May 2018.	Implement 2018-2019 PD Plan. Collaboratively develop PD with DEAC for following year.	Implement 2019-2020 PD Plan. Collaboratively develop PD with DEAC for following year.	Implement 2020-2021 PD Plan. Collaboratively develop PD with DEAC for following year.
III.I	Cyber Safety	Digital Citizenship and Cyber Safety content included in Digital Arts and PSHD curriculum.	Parent Information Nights on current trends and issues on cyber safety. Develop additional	Maintain firewall and web filtering services.	Maintain firewall and web filtering services.

			cyber safety resource appropriate for elementary and middle school students. Maintain firewall and web filtering services		
III.J	FTN		Maintain UStream annual service ($1,200.00)	Maintain UStream annual service ($1,200.00)	Maintain UStream annual service ($1,200.00)
III.K	K-8 Media Center & TED		Maintain equipment, software, and instructional staffing.	Maintain equipment, software, and instructional staffing.	Maintain equipment, software, and instructional staffing.
III.L	The Arts	Added 6 wireless microphones to sound system.	Maintain sound components and stage. Replace as necessary, digital photography equipment and peripherals.	Maintain sound components and stage. Replace as necessary, digital photography equipment and peripherals.	Maintain sound components and stage. Replace as necessary, digital photography equipment and peripherals.
III.M	Assistive Technology		Maintain the current subscriptions.	Survey teachers to reevaluate the current software	Maintain the current subscriptions.

			Refresher courses to all Special Education teachers in September.	and update subscriptions. Refresher courses to all Special Education teachers in September.	Refresher courses to all Special Education teachers in September.
Technology Equipment and Peripherals					
IV.A	Chromebooks	1:1 Chromebooks issued to students in grades 6-8. Chromebooks or reconverted Dells in classrooms.	Assign graduating 8th grade Chromebooks to incoming 6th graders. Maintain/convert carts for Chromebooks as needed.	Assign graduating 8th grade Chromebooks to incoming 6th graders. Maintain/convert carts for Chromebooks as needed.	Purchase new Chromebooks for incoming 6th grade. Maintain/convert carts for Chromebooks as needed.
IV.B	iPads	Reassigned 10 iPads to K & 1st grade.	Maintain current levels of iPads.	Maintain current levels of iPads. Renew Meraki Mobile Management (MDM)	Maintain current levels of iPads.
IV.C	Teacher Laptops/Computers		Maintain current levels of staff devices.	Maintain current levels of staff devices.	Maintain current levels of staff devices.
IV.D	Classroom Projection/Interactive	Replaced 2 Epson projectors with	Replace 2-3 Epson projectors with	Replace 2-3 Epson projectors with	Replace 2-3 Epson projectors with

	Boards/Document Cameras	Promethean Boards	touch screen interactive board. Apply available REAP funding for purchase.	touch screen interactive board. Apply available REAP funding for purchase.	touch screen interactive board. Apply available REAP funding for purchase.
IV.E	K-8 Computer Lab	Elementary Computer Lab redesignated for small group Instruction; proposed Kinesthetic Learning Center in 2018-2019.	Maintain one computer lab for Digital and Graphic Arts instruction, FTN production.	Maintain one computer lab for Digital and Graphic Arts instruction, FTN production.	Maintain one computer lab for Digital and Graphic Arts instruction, FTN production.
IV.F	Peripherals	Inventory controlled and maintained by Technology coordinator.	Maintain inventory to meet district functionality.	Maintain inventory to meet district functionality.	Maintain inventory to meet district functionality.
Technology Infrastructure					
V.A	Bandwidth		Review servers and switches annually and contract outside vendor for and needed configuration and installation.	Review servers and switches annually and contract outside vendor for and needed configuration and installation.	Review servers and switches annually and contract outside vendor for and needed configuration and installation.
V.B	Wireless	500 MB fiber connection with	Maintain 500 MB fiber connection	Maintain 500 MB fiber connection	Maintain 500 MB fiber connection

		Internet Clean Pipe - DDoS Protection installed summer 2017.	with Internet Clean Pipe - DDoS Protection.	with Internet Clean Pipe - DDoS Protection.	with Internet Clean Pipe - DDoS Protection.
Technology Staffing					
VI.A	Instructional	One Computer Technology teacher; one Media Specialist; one TED/G&T teacher; Science & Art teacher co-teach Digital Photography.	Maintain staffing to support programs and instruction.	Maintain staffing to support programs and instruction.	Maintain staffing to support programs and instruction.
VI.B	Non-Instructional	Technology Coordinator; Supporting office staff	Technical training and support for front office staff to assist district website maintenance. Maintain Frontline Education as the assignment fulfillment platform.	Technical training and support for front office staff to assist district website maintenance. Maintain Frontline Education as the assignment fulfillment platform.	Technical training and support for front office staff to assist district website maintenance. Maintain Frontline Education as the assignment fulfillment platform.
Review and Evaluation					
VII	Evaluation	Technology Coordinator, Director of	Annual survey of technology needs; usage reports;	Annual survey of technology needs; usage reports;	Annual survey of technology needs; usage reports;

		Curriculum and Instruction, School Business Administrator, & Technology Committee review programs and budget requirement to maintain systems.	evidence of technology integration in lesson plans; student achievement of technology standards as evidenced by performance assessments.	evidence of technology integration in lesson plans; student achievement of technology standards as evidenced by performance assessments.	evidence of technology integration in lesson plans; student achievement of technology standards as evidenced by performance assessments.

APPENDIX B

2017-2018 COSTS FOR TECHNOLOGY INTEGRATION AND SUPPORT

11-190-100-500-0-050 Other Purchased Services / Instruc.	Est. Cost
Blackboard (Website)	$ 2,450
CDWG Govt (Microsoft 365)	$ 3,500
Comcast (Back up internet)	$ 2,400
Frontline (Substitute & Attendance Tracking)	$ 3,200
Kyocera (Copiers)	$ 12,500
Networks & More (Firewall & Webfiltering)	$ 1,650
Realtime (Student Information System)	$ 14,100
School Check In (Office Check in)	$ 500
Securly (Webfilter for chromebooks) (3 year license expires 6/20)	$ -
Systems for You (Contractor)	$ 5,000
X-Tel (Internet Access @ 500 mbps)	$ 21,828
	$ 67,128

11-190-100-340-0-050 Purchased Technical Services	Est. Cost
Acellus Learning Services (Curriculum)	$ 9,750
Amplify Education (Curriculum)	$ 1,000
Atlanticy County AVA Commission (Discovery Education)	$ 1,500
Brainpop (Curriculum)	$ 2,400
Class Link (Single Sign-On & Analytics)	$ 2,500
Don Johnson (Snap & Read and Cowriter)	$ 1,500
Explore Learning (Reflex Math)	$ 3,300
Follett School Solutions (Library Management System)	$ 5,500
Froguts (Curriculum)	$ 300
Hatch Early Learning (PreK Curriculum)	$ 1,300
IBM Corp (Ustream video streaming)	$ 1,200
Learning Ally (Assistive Technology)	$ 1,000
Learning A-Z (Teaching A-Z & Razz Kids)	$ 4,000
Mind Research Institute (ST Math)	$ 4,000
NWEA (MAP)	$ 5,800
Renaissance Learning (Excelerated Reader)	$ 2,250
Stepware, Inc. (Typing Software) (3 year licenses expires 2020)	$ -
Teaching Strategies (Prek Digiatl Resources & Assessments)	$ 2,000
	$ 49,300

APPENDIX C

LIST OF INSTRUCTIONAL APPS

App Name	Grade Level
Glow Draw!	1stGrade
ABC - Magnetic Alphabet Lite for Kids	1stGrade
Storyline Online	1stGrade
Mathseeds Grade 2	1stGrade,2ndGrade
Mathseeds Grade 1	1stGrade,2ndGrade
Number Quiz by Tantrum Apps	1stGrade,2ndGrade
Kids A-Z	1stGrade,2ndGrade,3rdGrade,4thGrade,5thGrade,MiddleSchool,Rm101,Room101_103,SACC
Learning Ally Link	1stGrade,2ndGrade,3rdGrade,4thGrade,5thGrade,MiddleSchool,Rm101,Room101_103,SACC
YouTube Kids	1stGrade,2ndGrade,3rdGrade,4thGrade,5thGrade,MiddleSchool,SACC,auto:ios
ST Math: School Version	1stGrade,3rdGrade,4thGrade,5thGrade,MiddleSchool,Room101_103,SACC,StaffOct2016
Reflex Student	1stGrade,3rdGrade,4thGrade,5thGrade,Room101_103,SACC
Pandora - Free Music & Radio	1stGrade,3rdGrade,StaffOct2016
Tiggly Submarine: Preschool ABC Game	1stGrade,Rm101,Room101_103
Tiggly Safari: Preschool Shapes Learning Game	1stGrade,Room101_103
Tiggly Draw	1stGrade,Room101_103
Tiggly Chef: Preschool Math Cooking Game	1stGrade,Room101_103
Tiggly Cardtoons: Learn to Count with 25 Interactive Kids Stories	1stGrade,Room101_103
Tiggly Addventure: Number Line & Math Learning Game for Preschool	1stGrade,Room101_103
Tiggly Stamp	1stGrade,Room101_103
Tiggly Shape's Got Talent	1stGrade,Room101_103
Fluency Timer Pro	3rdGrade,4thGrade
Reading Speed/Fluency Builder - Grades 2-5	3rdGrade,4thGrade
Kahoot! - Play Learning Games	3rdGrade,4thGrade
Scholastic Classroom Magazines - Student Edition	3rdGrade,4thGrade,5thGrade
Voice Recorder & Audio Editor	3rdGrade,4thGrade,5thGrade,MiddleSchool
Adobe Acrobat Reader - View, Annotate & Share PDFs	All iPads
iMovie	All iPads
Capitals And States	MiddleSchool
States and Capitals Quiz !	MiddleSchool
50 US States Map, Capitals & Flags - American Quiz	MiddleSchool
Google Drive - free online storage	MiddleSchool,Room101_103,StaffOct2016
Shell Squad Games By Hatch	Rm101
Tiggly Story Maker: Make Words and Capture Your Stories About Them	Rm101,Room101_103
Tiggly Doctor: Spell Verbs and Perform Actions Like a Real Doctor	Rm101,Room101_103
Crazy Basketball - sports games	Rm101,Room101_103
Calm Kids with Mamaphant	Room101_103
Google Classroom	Room101_103,StaffOct2016
Google Docs	Room101_103,StaffOct2016
Google Chrome – The Fast and Secure Web Browser	SACC,StaffOct2016
Plickers	StaffOct2016

APPENDIX D

DEVICE INVENTORY

2017-2018 School Year		Staff Devices							Student Devices									
Room	Activity	Laptops	iPads	Chromebooks	iMacs	BYOD	Apple TVs	Staff Totals	Laptops	iPads	Chromebooks	iMacs	BYOD	Student Totals	Total Devices Filtered	Printers	Projectors	Total Devices
Grand Totals ---->		**89**	**41**	**2**	**6**	**72**	**5**	**215**	**128**	**104**	**409**	**4**	**0**	**645**	**860**	**44**	**37**	**941**
Rm101	Pre-K	1	1			2			0							1	1	
Rm102	Kindergarten	1	1			2			2	10						1	1	
Rm103	Kindergarten	1	1			2			2							1	1	
Rm104	Computer Lab	3	0			2			24							1	1	
Rm105	1st Grade	3	2			2				5	5					1	1	
Rm106	2nd Grade	2	1			1				5	5					1	1	
Rm107	2nd Grade	3	2			2				5	5					1	1	
Rm108	1st Grade	3	2			2				5	5					1	1	
Rm109	Speech / OT	3	0			3				4	5					1	1	
Rm110	Spanish	1	1			1				0	24					1	1	
Rm111	4th Grade	2	2			2				5	30					1	1	
Rm112	4th Grade	1	1			1				5	30					1	1	
Rm113	3rd Grade	2	1			2				5	30					1	1	
Rm114	3rd Grade	3	2			2				5	30					1	1	
Rm115	5th Grade	2	1			1				5	30					1	1	
Rm116	5th Grade	3	2			2				5	30					1	1	
Rm117	6th Grade	3	2	1		2				5	30					1	1	
Rm118	6th Grade	3	1	1		2				5	30					1	1	
Rm119	7th Grade	2	1			2				5	30					1	1	
Rm120	7th Grade	2	0			2				5	30					1	1	
Rm121	FTN Studio	0	0			0			5							1	1	
Rm122	TED / TAG	1	1			1			20	5	0					1	1	
Rm123	Spec. Ed	2	0			2				5	0							
Rm124	8th Grade ELA	1	0			1				0	30					1	1	
Rm125	SACC	2	0			1			0	10	0					1	1	
Rm126	8th Grade / Science & Photo	2	1			1	1		20	0	30					1	1	
Rm127	Art	2	1		1	1										1	1	
Rm128	Music	2	1		1	1										1	1	
Rm129	Library	2	1			1	1		25							1	2	
Rm130	Computer Lab	1	1		2	1	1		30			4				1	2	
Main Office	Admin	8	3		2	6										5	0	
CST	Child Study	4	1			4										1	0	
Café	Food Services	3	0			5										1	0	
Gym	Allpurpose	2	1			1										1	4	
Facilities	Ron Losse	2	0			6										1	0	
Nurse	School Nurse	2	0			1										1	0	
Computer Room	Server Room	4	0			2										1	1	
Teacher Lounge	1 Laptop	1	0			0	1									0	0	
Weather Bug	Front Office & Equipment	2														0	0	
Guest Sign_In	Front Office	1														1	0	
Security Room	Laptop	1														0	0	
Board of Ed iPads			6															
Art Room Kiln	Interface																	
3D Printers	Wifi															2	0	
Conference Room	Projector	0	0			0	1									0	1	
Storage Room	Printers	0	0			0	0									1	0	
********** Below not included in total **********																		
Camera NVR		2																
Cameras		128																