Great Falls Public Schools

All kids engaged in learning today....for life tomorrow

Information Technology Plan

2021 – 2024

Great Falls Public Schools
1100 4th Street South
Great Falls, Montana 59405

Contents

Introduction

Technology is a tool that supports our overall mission to successfully educate students to navigate their future. For students today, technology is an extension of their life so it is essential that GFPS transform how students learn and provide enriching opportunities to enhance learning in a fair and equitable manner. Technology that engages students and promotes collaboration, critical thinking skills, and multi-dimensional problem solving, leads to greater academic success and achievement. To support that vision, teachers and staff must also be engaged in technology. Providing professional development coupled with onsite support and efficient and effective resources that are "always on" and fully available are paramount to making student achievement a realization. At GFPS, our primary objective is to prepare our students to be citizenship ready and prepared for a career and/or college in adapting and using technology for life.

This three-year technology plan encompasses key components to make integration of technology within the classroom a reality and success.

This plan was unanimously approved by the GFPS School Board on January 10, 2022.

Text marked in red indicates objectives that cannot be met unless a Technology Levy increase or other source of funding becomes available.

Evaluation

This plan will be reviewed and evaluated on an annual basis. Accomplishments and revisions will be reported to the School Board within an annual Technology Report.

Stakeholders

Who will be impacted by the plan?

- Students
- Teachers, Administrators, and Staff
- Parents
- Community
- Local Businesses, Higher Education, and Military

GFPS Technology Mission & Vision Statements

Vision: “Engaging, collaborative, transformative technology for all students.”

Mission: “We strategically use technology to promote greater academic success and achievement.”

Belief statements:

- Technology is a tool that supports our mission to successfully educate students to navigate their future.
- Technology is an extension of students’ current reality.
- Technology engages students and promotes collaboration.
- Technology facilitates critical thinking skills and multi-dimensional problem solving.
- Effective, efficient use of technology is a partnership with students, staff, teachers, and resources to augment learning in a fair and equitable manner.
- Effective, efficient use of technology prepares our students to be citizenship ready and prepared for a career and/or college in adapting and using technology for life.

Committee Members

Technology Advisory Committee

Beckie Frisbee	Secondary Curriculum Coordinator	District Office
Becky Anderson	Administrative Assistant	CMR High School
Charlene Ammons	Elementary Technology Coach	District Office
Chris Mee	Data Center Lead	District Office
Dan Sibert	Technology Architect	Little Russell
Dannelle Aklestad-Dyke	Elementary Principal	Valley View Elem
Heather Hoyer	Secondary Assistant Superintendent	District Office
Jana Mora	High School Technology Coach	GFH High School
Jen Creed	Occupational Therapist	District Wide
Jerry Hopkins	Librarian	GFH High School
Marci Brodock	Teacher	Lewis & Clark Elem
Rachel Cutler	Elementary Curriculum Coordinator	District Office
Ruth Uecker	Elementary Assistant Superintendent	District Office
Tara Rosipal	Middle School Principal	NMS
Tiffani Fox-Sunchild	Speech & Language Pathologist	District Wide
Tom Hering	IT Director	District Office
Ty Moore	Elementary Principal	Lincoln Elementary

Acronyms

ANB – Average Number Belonging
AT – Assistive Technology
CEU – College Education Unit
CIPA – Children's Internet Protection Act
COPS SVPP – Community Oriented Policing Services School Violence Prevention Program
CTE – Career Technical Education
DPA – Data Privacy Agreement
ECF – Emergency Connectivity Fund
ELA – English Language Arts
ESSER – Elementary and Secondary School Emergency Relief Fund
FCC – Federal Communications Commission
Gbps – Giga bit per second
GFC MSU – Great Falls College Montana State University
GFPS – Great Falls Public Schools
IEP – Individualized Education Plan
IT – Information Technology
LEA – Local Education Agency
Mbps – Mega bit per second
MTSBA – Montana School Board Association
PD – Professional Development
PIR – Pupil Instruction Related
PLC – Professional Learning Community
PTA – Parent Teacher Association
SEAT – Special Education Assistive Technology
TBD – To Be Determined
USAC – Universal Service Administration Company
WAN – Wide Area Network

Goals-Objectives Summary

Goals	Objectives
1. Technology Curriculum	1.1 Digital Citizenship at all levels 1.2 Review of online content for new or updated Curriculum 1.3 Evaluate virtual/online courses and text books 1.4 Cybersecurity course development 1.5 Identify Assistive Technology for Students with Disabilities 1.6 Development of eSports program
2. Technology Professional Development	2.1 Customized individual training 2.2 Expanded use of video training 2.3 Online training through the KnowBe4 platform 2.4 Google/Microsoft certifications 2.5 New Hire Training 2.6 Paid Training / Professional Learning Committee (PLC) time
3. Hardware & Software selection, approval, and use	3.1 All hardware and software purchasing coordinated and approved through Information Technology 3.2 New vs refurbished equipment 3.3 Google vs Microsoft Applications 3.4 Purchase and implement Medical Documentation software 3.5 Implement integrated communication tools 3.6 Purchase and implement electronic registration and e-forms 3.7 Evaluation, selection, implementation of Help Desk 3.8 Evaluation, selection, implementation of Single Sign On 3.9 Evaluation, selection, implementation of Classroom Management System 3.10 Improve password management 3.11 Windows 11
4. Infrastructure upgrades for performance, reliability, redundancy, security, and safety	4.1 Purchase and implement private Wide Area Network (WAN) fiber 4.2 Network switch replacement and standardization 4.3 Wireless Access Point replacement and standardization 4.4 Internet and WAN Bandwidth monitoring and evaluation 4.5 Re-wire buildings with current copper / fiber standards 4.6 Utilize E-Rate funding for network 4.7 Replace video surveillance system 4.8 Evaluation, selection, implementation of Digital Classroom
5. Ubiquitous access	5.1 Maintain 1:1 in grades 2nd – 6th . Implement 2:1 for Kindergarten & 1st 5.2 Develop and implement 1:1 program for High School 5.3 Develop Assistive Technology (AT) guidelines and resources 5.4 Equitable level of technology across the District 5.5 Equitable access from home
6. Hardware maintenance	6.1 Refresh schedule – minimum specs, age, and warranty

to enable reliable and sustainable fleet of equipment	6.2 Achieve 5 year hardware replacement cycle 6.3 Sustainability model for grants and foundation awards
7. Support structure to facilitate consistent and uninterrupted processes and operations	7.1 IT support structure and processes 7.2 Technology and Instructional Coach support structure and processes
8. Security/Privacy to protect student and employee data	8.1 Annual Security/Privacy Staff Awareness Training 8.2 Security assessment and remediation process 8.3 Montana Pupil Online Personal Information Protection Act 8.4 Evaluate strategies for password management 8.5 Evaluation, selection, implementation of Laptop Encryption 8.6 Expand use of Raptor Visitor Management system 8.7 Evaluate strategies for Google & Microsoft 365 Backup 8.8 Develop plans for Incident Management, Disaster Recovery, Change Management
9. Budget funding to support technology plan	9.1 Technology Levy increase 9.2 Grants, Donations and Foundation Awards 9.3 E-Rate Opportunities and Federal Assistance

Goal 1. Technology Curriculum

Objective 1.1 Digital Citizenship at all levels

Digital Citizenship focuses on the safe, legal, and responsible use of both information and technology, by addressing the issues of safety when navigating on the Internet, cyberbullying, and the use of copyrighted material. This standard is integrated across all technology standards, as well as providing opportunities for explicit direct instruction. Instruction on digital citizenship is not only an obligation but a requirement for the E-Rate federal program, which provides the District with affordable broadband equipment and services. GFPS must comply with the Children's Internet Protection Act (CIPA) in order to participate in E-Rate.

Objective 1.2 Review of Online Content for new and/or updated Curriculum

As the Curriculum department evaluates new and updated curriculum, they will also evaluate the feasibility of purchasing digital/online content. Evaluation will mirror the District's philosophy of a blended learning style which focuses on face to face instruction backed with technology exercises if appropriate. Here is the schedule for reviewing curriculum for the next 3 years.

K-12:

2021-2022 – Social Studies, English Language Arts (ELA)
2022-2023 – Math, World Language, Library Media Resources, Career Technical Education (CTE), Computer Science, Technology

Objective 1.3 Evaluate Virtual/Online courses and text books

Virtual and Online courses provide the flexibility of being able to take them anytime from anywhere and to fill in gaps when students require specialized transformational learning. GFPS utilizes the Montana Digital Academy platform and students are approved and assigned by building administration. The Curriculum department will continue to evaluate this resource as well as other options available. In addition, the Curriculum Department will evaluate the feasibility of online text books compared to the annual subscription cost. The primary advantage is the content is continually updated. A hardcopy set for each classroom should also be purchased as a backup in case the internet or website is down.

Objective 1.4 Cybersecurity course development

As the thirst for technology grows, so does the demand for a skilled, qualified work force. According to the 2020 Cybersecurity Workforce, the industry is currently in need of about 3 million qualified cybersecurity workers, and 64% of the cybersecurity professionals surveyed say their organization is impacted by this cybersecurity skills shortage. When asked what skillset is the most important for the Ground Based Strategic Deterrent (GBSD) project, which will modernize the entire fleet of intercontinental ballistic missiles, Northrop Grumman indicated it is cybersecurity. GFPS will coordinate with GFC MSU for a dual credit program in cybersecurity. This education will provide the building blocks for our students to seek a career in a growing and desirable industry.

Objective 1.5 Identify Assistive Technology for Students with Disabilities

A comprehensive, collaboratively developed technology plan addresses the technology needs of all students in general education and special education. The district will develop an interdisciplinary team that also includes the Director of Information Technology and Director of Student Services to identify assistive technology (AT) (e.g., devices, extensions, apps, software, alternative access) for students with disabilities to help ensure that all students have the technology required for educational participation and benefit. The interdisciplinary team will identify a variety of AT to trial with students with disabilities and will evaluate each tool's effectiveness. Following the trial and evaluation period, the team will determine if the AT will be pursued for purchase by the district. The team will also develop a plan for professional development to support staff's ability to implement the purchased assistive technology.

Objective 1.6 Development of eSports program

eSports is a form of competition using video games organized as teams or individually that is an extremely fast-growing area, especially in high schools and colleges, with new leagues, tournaments, and players popping up on a regular basis. Benefits include team building, real-world communication skills and an alternative to traditional sports. Each year, millions of dollars are up for grabs in scholarships offered by as many as 175 colleges. Most eSports scholarships range from $500 to $8,000 annually, but some schools have started offering full-tuition awards. JROTC has set a goal to adopt eSports as an extracurricular activity within their program. As of September, 2021, the Montana High School Association has not sanctioned eSports. Local teams include Cut Bank and Shelby.

Current Assessment:

Objectives 1.1 – 1.3 are established processes but need to be reevaluated and reinvigorated. 1.4 - 1.6 are new programs that need a formal plan developed.

Accountability:

Teachers are accountable for implementing the standards with students and following procedures for technology use in the classroom. The Curriculum department is responsible for reviewing new standards and selecting resources for curriculum.

Support:

Assistant Superintendents, Curriculum Coordinators, Director of Information Technology, Principals and Instructional/Technology Coaches will provide support to teachers.

Measure:

Completion of training. Curriculum reviewed and approved. Programs operational.

Funding:

PIR, and PLC - Elementary and Secondary General Funds, Curriculum General Fund, and Building PD Funds.

Instructional Technology Coaches - Information Technology General Fund.

Estimated costs -

New technology curriculum and programs TBD

Assistive Technology TBD

eSports - $20,000 for equipment and setup

Timeline:

2021-2022	Digital Citizenship training for staff Review 2021-2022 Curriculum Establish Cybersecurity dual credit with GFC MSU – course catalog Purchase eSports equipment and setup for Spring tournaments
2022-2023	Review 2022-2023 Curriculum Begin Cybersecurity dual credit in high schools
2023-2024	Support ongoing objectives

Goal 2. Technology Professional Development

Objective 2.1 Customized Individual Training

Our Technology and Instructional Coaches continue to be an integral piece of making technology functional. Instruction on the specific device/application along with integration with curriculum and classroom activity is essential. Teachers can make individual appointments with coaches and customize training for their specific needs. GFPS will continue to require training as condition of use.

Objective 2.2 Expanded use of Video Training

Remote learning has taught us a few lessons and one is that instruction and training using video can be effective. Video offers the benefit of being accessed from anywhere at any time, shared easily, engages better and saves time by not requiring dedicated time be set aside. Products like ScreenCastify, Loom, Screencast-O-Matic, and of course, You Tube, are resources that have been approved by GFPS. Efforts should be made to expand the use of video for both training and instruction.

Objective 2.3 Online Training through the KnowBe4 Platform

GFPS has purchased the KnowBe4 platform for required HR and Cybersecurity staff training. While KnowBe4 is primarily a training tool for phishing and security awareness training, it also contains modules for regulatory (FERPA, HIPPA, etc) and HR (discrimination, harassment, ethics, etc.). In addition, custom content can be uploaded for online training specific to GFPS needs. The benefit of this training is it authorized staff can easily push out new training to all or a group of individuals and it tracks compliance with completing the training.

Objective 2.4 Google / Microsoft Certifications

Mastery of technology literacy is an important element of building a foundationally sound, sustainable model of pedagogy in the 21st century. Both the Google and Microsoft Certified Educator certifications offer advanced skills to incorporate technology curriculum, policy, and tools into the classroom. GFPS should incentivize instructors to achieve this progressive level of learning to maximize the impact technology can have on academic success and achievement. Whether it be fulfillment of PIR, CEUs, or college credit, the return on investment will be well worth it.

Objective 2.5 New Hire Training

Due to budget cuts, GFPS has had to reduce new hire training from 5 days to 1 day. About 2 hours of the one-day training involves logging into applications and making sure access is available to the teacher. More time needs to be allocated to training on the application and how it is used in the classroom. At least one full day should be allocated to training on core applications used by GFPS.

Objective 2.6 Paid Training / utilization of PLC time

Teachers have limited time for training during their duty day. Each Wednesday, time is dedicated for Professional Learning Communities (PLC). Principals should be encouraged to reserve at least 2 sessions for technology related training. It would also be advantageous to dedicate a budget for training outside the duty day that is not PIR specific. Bringing in speakers, webinars and conferences are examples that would need to be budgeted.

Current Assessment:

Approximately 15 technology-specific PIR courses are offered on an annual basis (Appendix A). Very few PLCs are dedicated to technology. There are only 2 hours allocated to new hire training. There is no budget designated for teacher training outside of the duty day.

Accountability:

Assistant Superintendents, Principals, Teachers, Technology/Instruction Coaches

Support:

Information Technology, Human Resources, Principals, and Instructional/Technology Coaches will provide support to teachers.

Measure:

Completion of training and certifications. Renew subscriptions for training tools. Progress towards meeting identified needs/skills. Training budget established.

Funding:

PIR and PLC - Elementary and Secondary General Funds, Curriculum General Fund and Building PD Funds.
Instructional Technology Coaches - Information Technology General Fund
Technology Training Budget - future funding by Technology Levy once increased and approved by voters (TBD).
Estimated costs -
training tools - $10,000
training budget - $50,000

Timeline:

2021-2022	Promote video training Establish incentive for certifications Set goal of 2 PLC's for technology training Establish funding for one full day tech training for new hires
2022-2023	Renew subscriptions for training tools Provide one full day training for new hires Provide incentive for certifications Prepare materials and Information for Technology Levy increase
2023-2024	Same as 2022-2023 Run Technology Levy to support training budget

Goal 3. Hardware & Software selection, approval, and use

Objective 3.1 All hardware and software purchasing coordinated through Information Technology

In order to standardize, simplify (reduce duplication and costs), and provide adequate support, all hardware and software purchasing should be coordinated through Information Technology to make sure it meets defined specifications and is in alignment with District objectives. In addition, purchases involving new items, should be reviewed and approved by a committee representing the requestor, Principal, Assistant Superintendent and Director of Information Technology. All major software and hardware should be centralized and run through the budgets governed by Information Technology. A list of current approved hardware and software is in Appendix B. Information Technology will develop a process for submitting requests for Web 2.0, Chromebook and iPad applications that is efficient and time-sensitive. The goal will be to review, approve, and install requested applications within one business week. Applications will be reviewed for content, relevance, duplicity and privacy/security concerns.

Objective 3.2 New versus Refurbished Equipment

The current Technology Levy and Information Technology department budgets can only sustain purchasing refurbished equipment. The exception is Chromebooks which are inexpensive enough to purchase new. Refurbished equipment is generally used 3 to 4 years and then sent to a reseller who reconditions them and certifies them for resale. Cost is generally half of new which makes it attractive for districts with minimal budgets. The goal would be to purchase new equipment with a minimum of 3 years warranty. To reach this goal, the annual Technology Levy would need to be increased.

Objective 3.3 Google vs Microsoft Applications

Both Google Suite For Education and Microsoft's suite of applications provide a very rich and robust learning environment. While each has their strengths and weaknesses, they both play a prominent part in the set of tools used at GFPS. It is the recommendation that GFPS remain in a hybrid model and support both platforms. The simplicity of Google delivers an ideal setting for Elementary while Microsoft is the defined standard for the business world and should be the focus of Secondary education. Our community business leaders have expressed that prospective candidates should know Microsoft products to be productive in their environment.

Objective 3.4 Purchase and Implement Frontline Medical Documentation Software

Currently, therapists and nurses in Student Services are documenting medical encounters using Microsoft Word and Excel. Unfortunately, those products are not HIPAA compliant in the manner they are being used. Each encounter must be electronically signed and dated and Microsoft will only allow each document to be signed once vs multiple encounters on one document. It is recommended that GFPS investigate purchasing a medical documentation system that is tailored for medical practices within school districts. The COVID pandemic has heightened the need for this type of software.

Objective 3.5 Implement integrated Blackboard communication tools

GFPS has purchased a suite of communication products from Blackboard that includes website hosting, mass notifications, teacher-parent communication, and mobile app. These products are integrated and work together to produce a cohesive and homogenous communication platform. Parents are currently receiving communication from several different platforms and it is confusing, especially if parents have children at different levels and schools.

Objective 3.6 Purchase and Implement PowerSchool Electronic Registration and Ecollect Forms

The current GFPS student registration process is paper and pencil in person. Electronic registration allows parents to register students online in the comfort of their home. Data will be reviewed and verified by Administrative Assistants before it is uploaded into the Power School database. In addition, the system provides the functionality of digitizing forms so they can be conveniently filled out online versus manually completing them on paper. Legibility is one key benefit of electronic forms.

Objective 3.7 Evaluation, Selection and Implementation of Help Desk

The current Help Desk software in use is severely out of date. Email notifications are broken and cannot be repaired. The Techs use this as a primary communication tool as they troubleshoot technology issues with staff. A help desk ticketing system that integrates with our remote support software would simplify the ticketing process and provide some automation to the process.

Objective 3.8 Evaluation, Selection and Implementation of Single Sign On

A recent study done by NordPass indicated the average person has 100 passwords to remember. While we cannot verify that is true for GFPS, it is an often a complaint. There are over 200 applications approved for use within the GFPS inventory of applications. Security best practices specify individuals should not reuse passwords and have a unique one per application. This can be very difficult to manage. Single Sign On technology allows a user to sign on once with a single password and then have access to all applications the person is approved for, without entering credentials for each one. The main benefit is only having to remember one password but drawback is if you password is compromised, it is compromised across many applications. The Information Technology department will evaluate whether this would be a beneficial tool for staff and students.

Objective 3.9 Evaluation, Selection and Implementation of Classroom Management

Teachers use classroom management tools to track students use of computers and ensure they stay on-track. The teacher can view what each student is doing on their computer and be able to assist if the student is struggling or off track on a different website or application they should not be using or accessing. Some systems also include the ability to chat with students and screen sharing to pre-populate applications or websites so students are all ready to go with an assignment. The initial goal would be to pilot at the middle school level and develop a plan to expand as necessary.

Objective 3.10 Enhance Password Management

Managing passwords, especially at the beginning of the school year, can be very time consuming and frustrating to staff and students. In addition, trying to change your password off the GFPS network has not been possible. Having the capability for staff and students to change their password from anywhere using any device, along with a self-administered password reset utility, would go a long way in reducing calls to the help desk and time wasted waiting for resets to happen.

Objective 3.11 Windows 11

It is important that both staff and students have access to the most current and supported systems. GFPs will evaluate the requirements for Microsoft Windows 11 and determine if it is feasible to implement on current hardware. If so, GFPS will develop a roll-out and training plan. If not, GFPS will develop a migration plan to prepare for Windows 11 deployment. Windows 10 is supported through October 2025.

Current Assessment:

Most technology purchases are coordinated through the Technology Budget, governed by Information Technology. However, staff can easily bypass this check point by using non-tech budget funds. Refurbished equipment is already used and sometimes out of date. Google and Microsoft applications are used based on staff’s expertise and comfort level with the product. Medical documentation is done on Word and Excel (not HIPAA compliant). Confidential applications and data is potentially exposed to external threats. Communication to parents and community is done on several disparate systems. Registration is done with paper and pencil. Help Desk software is broken and not repairable. Teachers do not have visibility on what students are doing on their computers during class. Passwords are difficult to remember and time consuming and cumbersome to reset.

Accountability:

Assistant Superintendents, Principals, Administrative Assistants, Information Technology, Student Services – Medical Professionals, Teachers

Measure:

Policy and procedure for hardware and software purchases
HIPAA compliance with medical documentation
Standardize and streamline communication using an integrated solution
Simplified data entry and paper forms reduction for registration
Improved communication with new Help Desk system
Teachers able to monitor students work and prevent misuse
Improved and simplified management of passwords

Funding:

Technology Levy Budget, Building Technology Funds, Information Technology General Fund

Estimated costs –

$17,000 annual subscription for Frontline Medical system
$40,000 annual subscription for Blackboard Communications system
$18,000 annual subscription for PowerSchool Enrollment and eCollect
$0 for Help Desk Software
$30,000 annual subscription for Single Sign On system
$30,000 annual subscription for Classroom Management system

Timeline:

2021-2022	Purchase new equipment subsidized with ESSER funding Implement Frontline Medical Documentation system Implement Blackboard Communication Suite Implement PowerSchool Enrollment and eCollect Evaluate, Select and Implement new Help Desk system Evaluate and select Classroom Management Tool – Middle schools Evaluate feasibility of Single Sign On system Implement online password reset Evaluate feasibility of self-administered password reset
2022-2023	Purchase new equipment subsidized with ESSER funding Renew subscriptions for Frontline, Blackboard, Powerschool Select and Implement Single Sign On system if proved feasible Select and Implement self-administered password reset Expand Classroom Management if pilot successful Evaluate requirements of Windows 11 and prep for deployment
2023-2024	Purchase new equipment subsidized with ESSER funding Renew subscriptions for Frontline, Blackboard, Powerschool, Classroom Management, Single Sign On Begin deploying Windows 11 on new computers. Develop migration plan for existing computers. Run Technology Levy to support sustainability of objectives

Goal 4. Infrastructure upgrades for performance, reliability, redundancy, security, and safety

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Objective 4.1 Purchase and implement private WAN fiber

Currently, GFPS pays $285,000 annually for lease lit fiber to connect all buildings for network, phone and internet services. This is up dramatically from $112,000 in 2015 due to increases in bandwidth to support a new phone system and online learning. GFPS has been awarded a $2.8M contract through the federal E-Rate program to install its own dedicated dark fiber. While there will continue to be ongoing maintenance fees of $78,000 annually, the payback period will be approximately 15 years. In addition, we will be able to increase the bandwidth at any time with no cost, other than new equipment to support faster speeds.

Objective 4.2 Network switch replacement and standardization

While desktop computers and laptops generally follow a five year industry standard replacement schedule, network components typically do not. By and large, network components are replaced due to end of support by vendor, equipment failures, lack of functionality needed for new technology, or inability to integrate with other network components. It is best practice to standardize on a manufacturer to simplify management and replacement, ensure compatibility and performance, and reduce training and vendor relationships. GFPS has chosen Brocade ICX series as the vendor and model of choice moving forward. Portable network switches, used when wiring is not available, should be avoided if possible and only employed if approved and installed by IT personnel. In 2023, the current inventory of network switches will be 9 years old.

Objective 4.3 Wireless Access Point replacement and standardization

Trends continue to indicate that school districts are adopting more mobile technology to allow greater flexibility within and between classrooms. GFPS is no different. Wireless technology continues to advance and become a more stable, reliable, and efficient form of data communication, reaching speeds of up to 1 gigabit per second (Gbps). There are multiple factors, however, that can influence performance which offers challenges. GFPS currently has Ruckus R720 802.11ac and R750 802.11ax wireless access points with many approaching 6 years of age. These access points are providing adequate coverage but we continue to grow our inventory of wireless devices. GFPS will continue to refine the implementation by conducting post wireless surveys and tweaking configurations to achieve maximum performance. The goal will be to provide complete building coverage for each school which may require additional access points and an upgrade at some point in the future.

Objective 4.4 Internet and WAN Bandwidth monitoring and evaluation

For the 2020-2021 school year, the FCC recommended the target of at least 1 Mbps internet service for each student. That equates to a 10 Gbps internet service which is 2 times what GFPS provides today. While we are moving in a more online, cloud-based application environment, our monitoring shows we are only currently using 20% of that estimate. We will continue to monitor and make recommendations but what might be a better use of funds is a second internet connection that will provide added bandwidth but also redundancy and failover if one Internet Service Provider fails.

Objective 4.5 Re-wire buildings with current copper / fiber standards

Many of the schools lack enough wiring for 20th Century Learning. In addition, several schools were wired over 30 years ago when standards were low for throughput. For example, Cat 3 cable, mainly used for telephone, is still in use today. Cat 3 can only support 10 Mbps where the latest Cat 6 specification can support up to 10 Gbps (1000 times faster). Fiber optic cable is used to support the backbone of the network in the building, usually from one wiring hub to another. Many schools lack this structure. Fiber optic cable can support speeds up to 100 Gbps over long distances. Even though wireless is preferred and gaining popularity, hard wire will continue to be a necessity for many years.

Objective 4.6 Utilize E-Rate funding for network

The federal E-Rate program has been an integral part of keeping our infrastructure up to date. Eligible schools and libraries can submit RFPs for broadband equipment and services, through a competitive bidding process. Awards must be approved by Universal Service Administrative Co. (USAC) and reimbursement percentage is based on the free and reduce lunch rate of the school district. As of 2021, GFPS' reimbursement rate is 80%. This program allows us to purchase network switches, wireless access points, Cat 6 wire, fiber optic cable and internet and WAN services for an affordable amount. We would not be able to afford it without this program.

Objective 4.7 Replace Video Surveillance System

GFPS' video surveillance system has been placed on the FTC ban list as a threat because of security vulnerabilities in the software. GFPS currently has over 1000 cameras installed and every building is covered with a base campus wide system. GFPS has applied for a grant through the COPS School Violence Prevention Program to replace all cameras and recorders in the Middle and High Schools. Elementary school cameras and records will be replaced with ESSER III funding.

Objective 4.8 Evaluation, Selection, Implementation of Digital Classroom

The COVID pandemic has brought to light the fact we need to be prepared to support remote learning. GFPS believes there will always be some form of remote learning, including home bound students due to medical conditions. Teachers need to be prepared but it can be difficult to juggle remote learners and face to face students at the same time. GFPS would like to pilot a mobile video conference system that can be moved from classroom to classroom as needed. The configuration will include a cart, wireless computer, large screen monitor and a camera/speaker combination unit. Not only can this be used by teachers, but also for private conferences with parents to discuss important topics like IEPs.

Current Assessment:

High cost of leased lit fiber and not flexible for growing demands. Network switches and access points are aging. Some buildings have outdated wiring. Video Surveillance system is on FTC ban list. Teachers have difficulty juggling both face to face and remote learners at the same time.

Accountability:

Information Technology, Principals, Teachers

Measure:

Successful implementation of fiber network
Developed plan for replacement of network switches and access points
Wireless survey completed at all building locations
Completion of rewiring Great Falls High, Paris Gibson Education Center
Video Surveillance system replaced with approved solution
Successful pilot of mobile Digital Classroom system

Funding:

Fiber Network funded by ESSER II

Network switches, access points, copper wire, and fiber optic cable qualify for Category 2, E-rate funding. 80% discounted with remainder being absorbed by Technology Fund.

Video Surveillance system funded by COPS grant and ESSER III

Pilot mobile video conferencing system funded by ESSER II.

Estimated costs –

$ 572,000	GFPS responsibility of fiber network implementation
$ 1,300,000	Video Surveillance system replacement
$ 405,000	Replacement of network switches
$ 280,000	Replacement of access points
$ 120,000	Rewire GFH, PGEC
$ 73,500	Pilot Digital Classroom system

Timeline:

2021-2022	Design, construct and implement dedicated WAN fiber Monitor WAN/Internet bandwidth Rewire main campus of GFH File annual E-Rate RFP Plan replacement of Video Surveillance system at Secondary Purchase and implement pilot Digital Classroom system
2022-2023	Monitor WAN/Internet bandwidth Rewire PGEC File annual E-Rate RFP Plan replacement of network switches and access points Begin replacement of Video Surveillance system at Secondary Expand pilot Digital Classroom system if feasible
2023-2024	Monitor WAN/Internet bandwidth

	File annual E-Rate RFP Begin replacement of network switches and access points Continue replacement of Video Surveillance system at Secondary

Goal 5. Ubiquitous Access

Objective 5.1 Maintain 1:1 in grades 2 – 6. Implement 2:1 for K & 1

GFPS currently maintains a 1:1 computer to student ratio in Elementary grades 2 to 6. Chromebooks are assigned to students but they remain in the building. Only if a remote learning situation warrants it will Chromebooks be taken home. The 1:1 ratio has been accomplished using one-time only funding. To maintain this proportion into the future, an increase in Technology Levy funding will be necessary. Grades Kindergarten & 1st, currently go to the computer lab for technology related exercises. Their time on Chromebooks is minimal and approved applications are few, so a shared environment is appropriate for this group. This will also need to be factored into a request for increase in Technology Levy funding.

Objective 5.2 Develop and implement 1:1 program for High School

At the High School level, GFPS will prepare and plan to adopt a model that provides a device to each student when they are a freshman. The student will care and use this device though out their four years of high school. At graduation, the student can purchase the computer for a nominal fee and keep or return it to the District. Students will be able to take these home but will also be responsible for care and condition of their devices and may need to reimburse GFPS for lost or unrepairable devices. Estimated counts are 3000 computers costing approximately $1,950,000.00. Additional costs for carrying cases and damage protection will be necessary.

Objective 5.3 Develop Assistive Technology (AT) Guidelines and Resources

Assistive Technology (AT) must be considered for all students with disabilities who have an IEP (Individualized Education Plan). Individual IEP teams must consider if a student’s functional capabilities could be increased, maintained, or improved through the use of AT devices or services. The purpose of assistive technology is to remove barriers, improve access to curriculum and educational materials, and help students reach their educational goals. GFPS is dedicated to supporting students with disabilities and will develop district-specific AT guidelines to support education teams with the AT decision making process. Additionally, an online library for professional development (e.g., webinars, training opportunities, video demonstrations, checklists) will also be created to build capacity in school teams and their ability to consider, assess, and implement AT for students with disabilities.

Objective 5.4 Equitable level of technology across the District

The Belief Statements of the District and this Technology plan contain language pertaining to equality in instruction but also include equality in access to tools to achieve academic success. Technology equity will be measured in two ways:

- A consistent level of funding for technology per student per school
- Approximate same count and device types and models for each school level

Supplemental funding sources (i.e. Grants, Title funding, etc.) will challenge equality at times, but careful oversight and planning and a balance of building, District and Technology funding will keep the system in check. In addition, GFPS should be considerate of students with special needs. The Special Education Assistive Technology (SEAT) team has been established to review requests for assistive technology and evaluate their effectiveness.

Objective 5.5 Equitable access from home

As technology is utilized more in curriculum and adoption increases, it is only natural that the dependence for it will migrate beyond the walls of the school into homes. This presents two problems. The environment needs to be seamless so it is the same anywhere, anytime. With the shift to online and cloud computing, most of the concerns are alleviated but making all applications available may necessitate opening the internal network to external access which needs to be done carefully to protect security. In addition, not all homes are equipped with internet so GFPS should research options to provide access outside of the school walls in a fair and equitable manner.

Current Assessment:

K & 1 grades use windows-based computers in labs and travel back and forth from classrooms. High school students use devices scattered throughout the buildings. High School teachers share devices between departments or they can be checked out. There are a limited number of devices and hot spots that can be checked out for home use. Guidelines and resources for AT are not defined or widely known.

Accountability:

Information Technology, Assistant Superintendents, Principals, Student Services

Measure:

Purchase and implementation of Chromebooks for Kindergarten & 1st grades
3000 mobile devices purchased for high school student use
Annual technology plan review for each school
Develop AT guidelines and online resource library

Funding:

Technology Levy, Building Funds, District Funds, ESSER III
Estimated costs –

$335,000 for Kindergarten & 1st grade Chromebooks and Carts
$1,950,000.00 for high school mobile devices
Home Access expenses TBD
AT resources TBD

Timeline:

2021-2022	Plan, purchase and implement Chromebooks for K & 1 Develop plan for 1:1 High School objective Annual technology plan with each school – maintain equity Purchase limited supply of hot spots Develop Assistive Technology guidelines and resources Develop long term plan for access from home
2022-2023	Purchase and implement 1:1 High School objective – 1st year Annual technology plan with each school – maintain equity Implement Assistive Technology guidelines and resources Purchase and implement plan for access from home
2023-2024	Purchase and implement 1:1 High School objective – 2nd year Annual technology plan with each school – maintain equity Develop technology competencies for Assistive Technology – District wide

Goal 6. Hardware maintenance to enable reliable and sustainable fleet of equipment

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Objective 6.1 Refresh schedule – minimum specs, age, and warranty

It is understood, that over time, computer equipment will need to be replaced due to lack of performance and/or failure, end of support by vendor and/or end of warranty, specifications that do not meet software requirements or lack of functionality needed for new technology. On an annual basis, Information Technology will identify the minimum and preferred specifications needed to keep equipment at a level that achieves a reliable and acceptable level of performance. Equipment that falls below this level will be tagged and renamed to indicate it is not to be replaced. The Director of Information Technology will meet with the Principal and the teacher tech representative at each school and review the current inventory of equipment and develop a building technology plan that melds needs and goals with replacement of aging equipment. Please see Appendix C for a list of current minimum and preferred specifications and equipment that is on the "To Be Replaced" list.

Objective 6.2 Achieve 5 year hardware replacement cycle

In conjunction with Objective 6.1, Information Technology will strive to maintain an industry standard five year hardware replacement cycle for staff and student computers. Driving factors to accomplish this initiative are Technology Levy funding and staffing to replace approximately 2,500 computers a year, once the plan is fully operational.

Objective 6.3 Sustainability model for grants and foundation awards

It is expected that GFPS will apply for and receive grants that involve technology components. While grants can be an asset, they also present a challenge on how to sustain the technology after the grant ends. As part of the grant application process, the requestor will develop an equipment sustainability model that is reviewed by Cabinet in conjunction with the grant itself. The model may vary widely with each grant. Sustainability models can range from full replacement indefinitely to no replacement which would lead to the technology being discontinued after its usable life. This also includes donations from PTA's.

Current Assessment:

Equipment replaced, many times not factoring age, warranty, or specifications. No sustainable revenue stream for consistent periodic replacement. No sustainability model for grants involving equipment. Over 50% of current inventory is over 5 years old and out of warranty.

Accountability:

Information Technology, Principals, Technology Coaches

Measure:

All computers on 5 year replacement schedule

Funding:

Technology Levy, Grants, Foundation Awards

Estimated cost –

$1,100,000/year for 2,500 replacement computers

$37,500 for one additional Technology Support Tech to manage increase in equipment and replacement schedules

Timeline:

2021-2022	Annual technology plan with each school – needs and replacement Review Grant/Foundation Sustainability Models as needed Replace equipment based on 5 yr schedule and specifications
2022-2023	Annual technology plan with each school – needs and replacement Review Grant/Foundation Sustainability Models as needed Replace equipment based on 5 yr schedule and specifications
2023-2024	Annual technology plan with each school – needs and replacement Review Grant/Foundation Sustainability Models as needed Replace equipment based on 5 yr schedule and specifications Hire 1 additional Technology Support Tech to support increase of equipment

Goal 7. Support structure to facilitate consistent and uninterrupted processes and operations

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Objective 7.1 IT support structure and processes

Improve the effectiveness and efficiency of IT support by the following actions:

- Rotation Schedule
  - Elementary schools visited at least once a week
  - Secondary schools visited at least twice a week
  - Multiple Techs to schools that have a high list of tickets

- Implement an Incident Management Process
  - Intake/Request Process (Help Desk-Tech Support)
  - Escalation Procedures
  - Incident Prioritization - Target Response Times

- Implement a Change Management Process
  - Evaluate system changes for benefits/risks
  - Prioritize changes for greatest benefits
  - Thoroughly test changes
  - Back Out plan if change fails
  - Proper communication of changes
  - Process for emergency changes

- Replace Help Desk/Ticket system and emphasize use

Objective 7.2 Technology Coaches support structure and processes

Improve the effectiveness and efficiency of Technology Coaches support by the following actions:

- Customized training (see Goal 2)
- Training as condition of use
- Develop Technology PD opportunities for Tech PLCs/cafes

Current Assessment:

Help Desk system is not used by staff consistently. Tickets are not always prioritized and escalated properly. Help Desk notifications are not working. The time to train teachers is limited and substitutes are not available to fill in. Technology is not a priority at PLCs.

Accountability:

Information Technology, Technology Coaches, Principals, Staff

Measure:

Incident and Change Management processes in place
Help Desk Ticket system replaced
Help Desk Ticket system used for 80% of reporting requests
Schedules published for support of availability
Customized training for individuals. Video training.
Technology PD conducted in at least 2 PLCs

Funding:

Information Technology Elementary and Secondary General Funds, Technology Levy, Building PD Funds.

Instructional Technology Coaches - Information Technology General Fund; future funding by Technology Levy once increased and approved by voters (TBD)

Estimate cost –

Help Desk Ticket system TBD

$37,500 for one additional Technology Support Tech to manage increase in equipment and replacement schedules

Timeline:

2021-2022	Develop/Implement Incident and Change Management Processes Replace and increase Help Desk Ticket use by staff Work with Principals to incorporate more Technology at PLCs Develop schedules/rotations to increase onsite support
2022-2023	Work with Principals to incorporate more Technology at PLCs
2023-2024	Hire 1 additional Technology Support Tech to support increase of equipment

Goal 8. Security/Privacy to protect student and employee data

Objective 8.1 Annual Security/Privacy Staff Awareness Training

It has been chronicled repeatedly that humans are the weakest link in an organization’s cybersecurity line of defense. This is why the primary method of attack for a bad actor is exploiting human behavior using social engineering tactics, phishing, and malicious websites as examples. It is very important that staff are aware of these types of campaigns and know how to identify and report them. GFPS will use the KnowBe4 training platform to conduct annual, required security awareness training to help mitigate cybersecurity threats.

Objective 8.2 Security assessment and remediation process

In the spring of 2016 and then again in February 2020, GFPS contracted with a third-party firm to assess the security posture of the District. Key stakeholders were interviewed to determine use of security practices in daily activities and compliance with policies. In addition, both internal and external scans were run to test for system vulnerabilities and malicious activity. GFPS has evaluated the results and acted to address deficiencies that were identified. The Security Specialist will also perform annual internal self-assessments to identify any risks that need remediation. It is advised to continue with bi-annual third-party assessments as well.

Objective 8.3 Montana Pupil Online Personal Information Protection Act

In 2019, the Montana State Legislature passed HB745 which enacts student online personal information protection. As a Local Education Agency (LEA), schools and online software vendors are obligated to protect personal student information located in the cloud. MTSBA has developed a Montana Data Privacy Agreement which encompasses the requirements of HB745. Staff are required to submit a request for the use of software, apps, and websites before using and, if found to house personal student information, will be required to execute a data privacy agreement (DPA) between GFPS and the software vendor. The DPA is a legally binding contract holding the online software vendor responsible for any breach or misuse of student data.

Objective 8.4 Evaluate strategies for password management

During the first few weeks of a new school year, requests for password resets account for almost 60% of all calls to the IT Help Desk. Password resets have historically been only possible on the GFPS internal network and executed by the Information Technology staff. This process places a burden on the IT staff as well as wasted time for staff waiting for these resets to occur. To streamline this process, GFPS will look at making it possible to have staff and students selfadminister their own password resets and have this utility available online securely from anywhere on any internet accessible device.

Objective 8.5 Evaluation, selection, implementation of Laptop Encryption

GFPS is moving to a more mobile device environment with both staff and students utilizing devices such as Chromebooks and Laptops. Staff are encouraged and directed to save and store documents, especially those with protected information, on secure locations such as internal network drives, Google Drive, and Microsoft Office 365. However, there is no preventive policy from allowing staff to store documents on their local hard drive. In the event of a laptop being lost or stolen, protected information could be exposed and compromised. GFPS will evaluate, select and implement laptop encryption to secure documents stored on the local hard drive.

Objective 8.6 Expand use of Raptor Visitor Management system

GFPS has purchased and installed the Raptor Visitor Management system in seven elementary schools and Transitional Kindergarten. Raptor registers visitors and flags them if they are on the national sex offender registry. Visitors can also be flagged by the school if they are not allowed to enter such as in custody disputes and legal injunctions. Raptor is also used to record staff in the building. In the event of an emergency, a report can be produced which shows all staff in the building at that time. The GFPS Business Office offers a 50% grant for non-title schools and a 75% grant for title schools to incentivize implementation.

Objective 8.7 Evaluate strategies for Google & Microsoft 365 Backup

Cloud based document storage systems (i.e. Google Drive, Microsoft Office 365) generally backup data for a limited amount of time, typically 14 – 30 days. GFPS will determine if that is sufficient and if not, evaluate strategies to retain data for a longer period of time.

Objective 8.8 Develop plans for Incident Response Plan, Disaster Recovery, Change Management

GFPS will develop management plans:

- Implement an Incident Response Plan
    - Incident Response Team - roles and responsibilities
    - Detection and Analysis
    - Containment
    - Eradication
    - Recovery
    - Communication

- Implement a Change Management Process
    - Evaluate system changes for benefits/risks
    - Prioritize changes for greatest benefits
    - Thoroughly test changes
    - Back out plan if change fails

    - Proper communication of changes
    - Process for emergency changes

- Implement a Disaster Recovery Plan
    - Disaster Recovery Team – roles and responsibilities
    - Scope of plan
    - Identify and assess disaster risks
    - Critical applications and resources
    - Priority for restoration
    - Backup and off-site storage
    - Test DRP

Current Assessment:

Staff failing phishing testing. Risks change and reassessment needed. Online applications need vetting for student data privacy regulations. Password resets cumbersome. No encryption on mobile devices. Raptor system in only some schools. Cloud based document storage backup is limited. No plan for Incident Response, Disaster Recovery, Change Management.

Accountability:

Superintendent, Assistant Superintendents, Information Technology, Principals, Staff

Measure:

Phishing test with no failures. Identified security vulnerabilities remediated. Fully compliant with HB745. Self-administered password reset implemented. Active encryption on mobile devices. Raptor system in all schools. Cloud based document storage backed up based on GFPS requirements. Incident Response, Disaster Recovery and Change Management plans in place.

Funding:

Technology Levy, Information Technology Elementary and Secondary General Funds

Estimate costs –

$ 6,000 annual KnowBe4 Training (3-year agreement)
$10,000 External Security Assessment
Laptop Encryption TBD
$1,600 each school Raptor Visitor Management
Backup for Google Drive and Microsoft Office 365 TBD

Timeline:

2021-2022	Annual Cybersecurity training for all staff Perform internal security assessment and remediate deficiencies Execute Data Privacy Agreements for staff requests Implement online password reset Evaluate and select laptop encryption solution Encourage Principals to implement Raptor Visitor Mgt system Evaluate strategies for Google Drive and MS Office 365 Backup Develop Incident Response Plan
2022-2023	Annual Cybersecurity training for all staff Conduct bi-annual security assessment and remediate Execute Data Privacy Agreements for staff requests Evaluate, select and implement self-administered password reset Implement laptop encryption Encourage Principals to implement Raptor Visitor Mgt system Implement Google Drive and MS Office 365 Backup Develop Disaster Recovery Plan
2023-2024	Annual Cybersecurity training for all staff Perform internal security assessment and remediate deficiencies Execute Data Privacy Agreements for staff requests Implement laptop encryption Encourage Principals to implement Raptor Visitor Mgt system Develop Change Management procedures

Goal 9. Budget funding to support technology plan

Objective 9.1 Technology Levy increase

GFPS introduced a Technology Levy in 2003 to cover computer related expenses. To date, this Levy has not been adjusted for changes in ANB, cost of equipment, development of technology curriculum, or modern technological improvements. The current funding for technology is woefully below the average for AA Districts in the state and inadequate to meet current needs. It is the recommendation that the Budget Committee consider endorsing a revised Technology Levy that provides adequate funding for annual infrastructure and network wiring requirements, new and replacement computer equipment, training, support, and professional development to the full School Board. The School Board must consider that a new levy would replace the existing perpetual levy and sunset after 10 years. Please see Appendix D for a proposed general and technology levy budget.

Objective 9.2 Grants, Donations and Foundation Awards

GFPS will continue to investigate prospects for technology grants and foundation awards. Per Objective 6.3, all applications for technology grants and awards will need to include a sustainability plan.

Objective 9.3 E-Rate Opportunities and Federal Assistance

At times, the FCC and USAC have considered other funding opportunities to assist qualifying LEA’s in special circumstances. In July, 2021, the FCC authorized $7.17 billion for the Emergency Connectivity Fund (ECF) which funds technology tools and services to support remote learning during the COVID-19 emergency period. GFPS will evaluate these opportunities as they come available and determine if any are viable and feasible for the District. In addition, the Elementary and Secondary School Emergency Relief (ESSER) fund provides emergency relief funds to address the impact that COVID-19 has had, and continues to have. Appropriate and approved purchases for technology are allowed to mitigate the effects of COVID-19.

Current Assessment:

Current budget not adequate to meet current needs.

Accountability:

School Board Budget Committee, Superintendent, Director of Business Operations, Director of Information Technology, Principals

Measure:

Annual revenue stream that supports objectives of the Technology Plan

Funding:

Technology Levy
Technology Grants, Donations and Foundation Awards

Special circumstance grants through federal and local agencies

Timeline:

2021-2022	Apply for COPS SVPP Grant for Video Surveillance replacement Work with Principals for PTA and other donations Tap into ECF and ESSER funding Investigate technology grants and foundation awards
2022-2023	Prepare School Board Budget Committee with Technology Levy info Work with Principals for PTA and other donations Tap into ECF and ESSER funding Investigate technology grants and foundation awards
2023-2024	Run revised Technology Levy Work with Principals for PTA and other donations Tap into ECF and ESSER funding Investigate technology grants and foundation awards

Appendix A. Technology PIR Catalog

COURSES:

COURSE NAME	DESCRIPTION
Blended Learning (Grades 2-6)	New to Chromebooks in the elementary classroom or want to refresh yourself on using Chromebooks well in the classroom? Prepare yourself in order to prepare your students for a successful blended learning experience. This session will cover getting to know the Chromebook, classroom procedures and best practices, Google Classroom and Google apps, and lesson design.
Blended Learning (Grades K-1)	New to Chromebooks in the elementary classroom or want to refresh yourself on using Chromebooks well in the classroom? Prepare yourself in order to prepare your students for a successful blended learning experience. This session will cover getting to know the Chromebook, classroom procedures and best practices, Google Classroom and Google apps, and lesson design.
GFPS Secondary Google Educator	This course will focus on actively engaging students using Google for Education tools. We will explore several tools in the Google for Education Suite beginning with the basics of Google Classroom and the use of Google Docs and Slides to promote student productivity and collaboration. Next, we will delve into using Google Sheets and Google Forms in the classroom. Finally, we will explore alternative Web 2.0 tools that can enhance teaching and learning. All areas of the instructional framework will be covered, and we will show easy ways that teachers can use Google for Education tools to seamlessly integrate disciplinary literacy into their teaching and learning. This course is a must for all teachers in today's classroom!
Teacher Webpage Creation	With the district's move to Blackboard, you may have lost your teacher webpage. We will create a free site where you can post your links , videos, and any other important pages for students. the following concepts will be covered: hyperlinks, drop downs, embed codes, designing, graphic creation, ADA compliance, how to use your website to drive instruction. We will also learn to create video playlists.
Computer Science Principles	Based on the College Board's emerging Advanced Placement (AP) Computer Science Principles curriculum framework for introductory computer science. Students learn programming and computer science principles by building socially useful mobile apps using MIT's App Inventor. Details at mobilecsp.org.

BYOTT Bring Your Own Tech Tool for Secondary	All participants are required bring a tech tool to share with the group, during the last hour you will have time to pick your favorite tools to further explore. This PIR is targeted to secondary teachers.
Edready	Edready is a free supplemental tool provided by the State of Montana to provide math remediation and/or acceleration.
Desmos Activities for Secondary Teachers	Interactive computer based activities for any subject area.
Intro to Desmos Activities for Elementary Teachers	Interactive computer based lessons to use in your classroom in any subject area.
Projects for Online Learning	Want to go beyond Google Docs to enliven your online classroom or just add some online fun to your regular class? This session will introduce a variety of tools to use for project-based learning that break from the usual Google Slides.

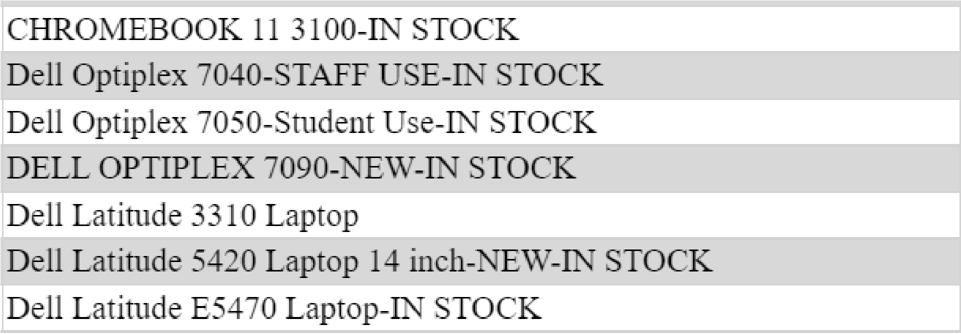
Appendix B. Approved Hardware and Software

Software

GFPS Website Link

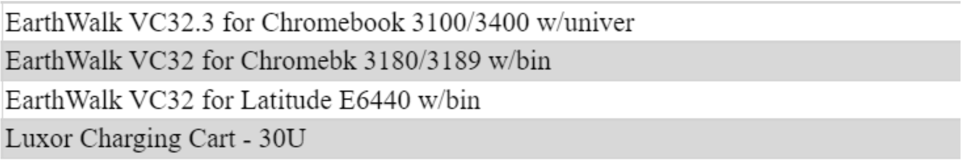
Hardware

Computers



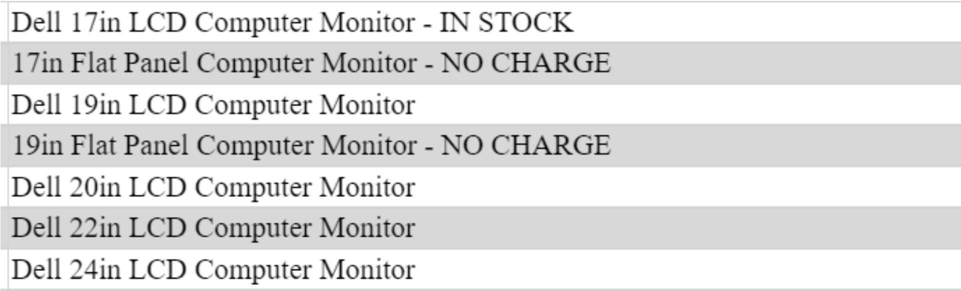
CHROMEBOOK 11 3100-IN STOCK
Dell Optiplex 7040-STAFF USE-IN STOCK
Dell Optiplex 7050-Student Use-IN STOCK
DELL OPTIPLEX 7090-NEW-IN STOCK
Dell Latitude 3310 Laptop
Dell Latitude 5420 Laptop 14 inch-NEW-IN STOCK
Dell Latitude E5470 Laptop-IN STOCK

Computer Carts



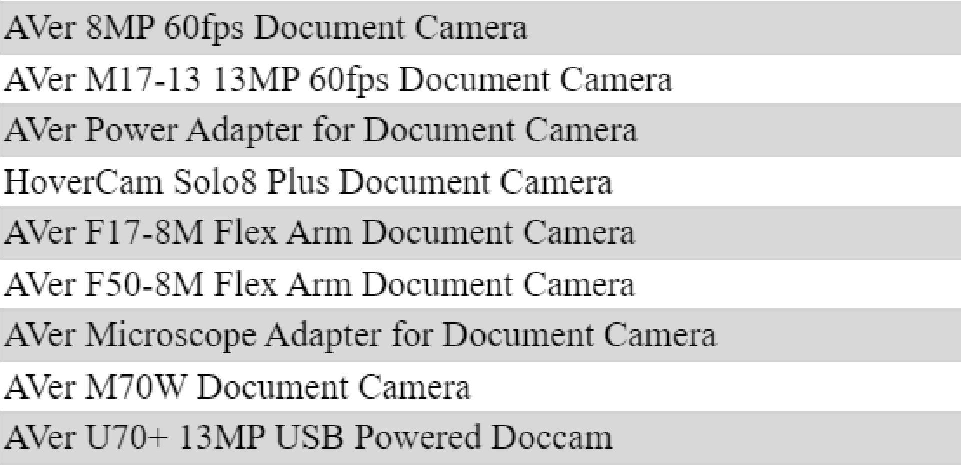
EarthWalk VC32.3 for Chromebook 3100/3400 w/univer
EarthWalk VC32 for Chromebk 3180/3189 w/bin
EarthWalk VC32 for Latitude E6440 w/bin
Luxor Charging Cart - 30U

Computer Monitors



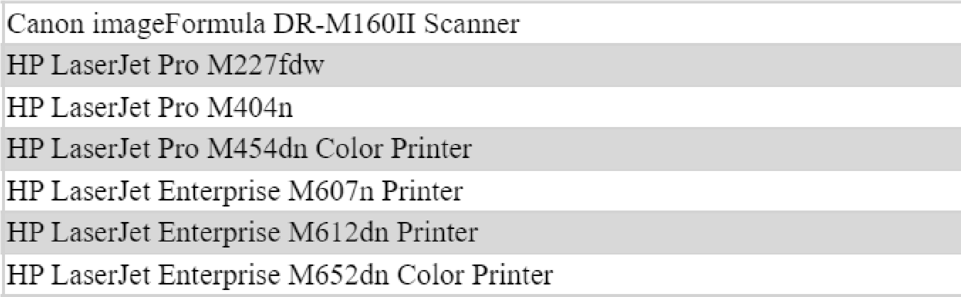
Dell 17in LCD Computer Monitor - IN STOCK
17in Flat Panel Computer Monitor - NO CHARGE
Dell 19in LCD Computer Monitor
19in Flat Panel Computer Monitor - NO CHARGE
Dell 20in LCD Computer Monitor
Dell 22in LCD Computer Monitor
Dell 24in LCD Computer Monitor

Document Cameras



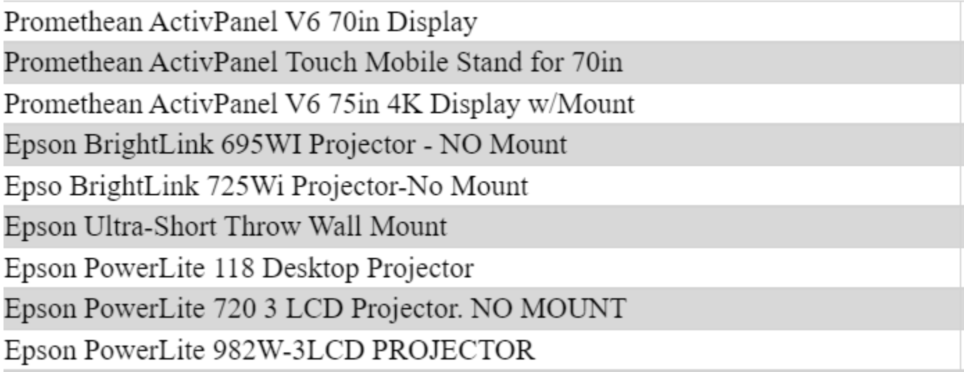
AVer 8MP 60fps Document Camera
AVer M17-13 13MP 60fps Document Camera
AVer Power Adapter for Document Camera
HoverCam Solo8 Plus Document Camera
AVer F17-8M Flex Arm Document Camera
AVer F50-8M Flex Arm Document Camera
AVer Microscope Adapter for Document Camera
AVer M70W Document Camera
AVer U70+ 13MP USB Powered Doccam

Printers/Scanners



Canon imageFormula DR-M160II Scanner
HP LaserJet Pro M227fdw
HP LaserJet Pro M404n
HP LaserJet Pro M454dn Color Printer
HP LaserJet Enterprise M607n Printer
HP LaserJet Enterprise M612dn Printer
HP LaserJet Enterprise M652dn Color Printer

Projectors / Interactive Panels



Promethean ActivPanel V6 70in Display
Promethean ActivPanel Touch Mobile Stand for 70in
Promethean ActivPanel V6 75in 4K Display w/Mount
Epson BrightLink 695WI Projector - NO Mount
Epso BrightLink 725Wi Projector-No Mount
Epson Ultra-Short Throw Wall Mount
Epson PowerLite 118 Desktop Projector
Epson PowerLite 720 3 LCD Projector. NO MOUNT
Epson PowerLite 982W-3LCD PROJECTOR

Appendix C. Minimum/Preferred Hardware Specifications

	Minimum Specs							
	Op System	CPU	RAM	Hard Drive	Wireless Adapter	Battery	Screen Size	Warranty
Desktop	Windows 10 64-bit	Intel i3	8 Gb	160 Gb	N/A	N/A	N/A	1 yr
Laptop	Windows 10 64-bit	Intel i3	8 Gb	160 Gb	802.11 a/g	6 Cell	11"	1 yr
Chromebook	Chrome OS	Intel Celeron	2 Gb	16 Gb SSD	802.11 a/g	3 Cell	11"	1 yr
	Preferred Specs							
	Op System	CPU	RAM	Hard Drive	Wireless Adapter	Battery	Screen Size	Warranty
Desktop	Windows 10 64-bit	Intel i5 10th Gen	16 Gb	512 Gb SSD	N/A	N/A	N/A	3 yr
Laptop	Windows 10 64-bit	Intel i5 11th Gen	16 Gb	256 Gb SSD	802.11 ax	9 Cell	14"	3 yr
Chromebook	Chrome OS	Intel Celeron	4 Gb	32 Gb SSD	802.11 ac	4 Cell	11"	3 yr

Makes/models to be replaced:

Immediate

- **Inspiron 1721**
- **Latitude 131L**
- **Latitude 2100**
- **Latitude 2110**
- **Latitude 2120**
- **Latitude D531**
- **Latitude D620**
- **Latitude D630**
- **OptiPlex 580**
- **OptiPlex 745**
- **OptiPlex 755**
- **OptiPlex 760**
- **Optiplex GX520**
- **Optiplex GX620**

Near Term (1-2 years)

- **Latitude E6400**
- **Latitude E6410**
- **Latitude E6440**
- **OptiPlex 7010**
- **OptiPlex 9010**

Appendix D. Proposed General / Technology Budgets

Salaries / Benefits	$	1,084,632.00	Salaries / Benefits
Tech Services	$	39,750.00	Tech Services
Tech Supplies/Equip	$	227,795.00	Tech Supplies/Equip
Misc	$	26,600.00	Training/Travel/Phone/Fuel/Dues
Technical Software	$	475,000.00	Microsoft/SolarWinds/VMWare/Mitel
Data for Acheivement Software	$	227,000.00	PowerSchool/Milepost/NWEA Map
General Budget Total	$	2,080,777.00	
Replacement Computers 20% of total (5 year cycle)	$	1,094,875.00	630 student (9-12) laptops @ $750/ea 1325 student (K-8) Chomebooks @ $265/ea 135 staff desktop computers @ $750/ea 170 staff laptop computers @ $1000/ea
School Designated Equipment	$	250,000.00	Projectors/Printers/Doc Cameras/Misc
Professional Development	$	50,000.00	Above DD and PIR Training
Staff - Training / Repair	$	220,000.00	2 Technology Coaches 2 Repair Technicians
Technology Levy Total	$	1,614,875.00	
Totals	**$**	**3,695,652.00**	

Appendix E. Aggregate Timeline

Goal	2021-2022	2022-2023	2023-2024
1. Technology Curriculum	Digital Citizenship training for staff Review 2021-2022 Curriculum Establish Cybersecurity dual credit with GFC MSU – course catalog Purchase eSports equipment and setup for Spring tournaments	Review 2022-2023 Curriculum Begin Cybersecurity dual credit in high schools	Support ongoing objectives
2. Technology Professional Development	Promote video training Establish incentive for certifications Set goal of 2 PLC's for technology training Establish funding for one full day tech training for new hires	Renew subscriptions for training tools Provide one full day training for new hires Provide incentive for certifications Prepare materials and Information for Technology Levy increase	Same as 2022-2023 Run Technology Levy to support training budget
3. Hardware & Software selection, approval, and use	Purchase new equipment subsidized with ESSER funding Implement Frontline Medical Documentation system Implement Blackboard Communication Suite Implement PowerSchool Enrollment and eCollect Evaluate, Select and Implement new Help Desk system Evaluate and select Classroom Management Tool – Middle schools Evaluate feasibility of Single Sign On system Implement online password reset Evaluate feasibility of self-administered password reset	Purchase new equipment subsidized with ESSER funding Renew subscriptions for Frontline, Blackboard, Powerschool Select and Implement Single Sign On system if proved feasible Select and Implement self-administered password reset Expand Classroom Management if pilot successful Evaluate requirements of Windows 11 and prep for deployment	Purchase new equipment subsidized with ESSER funding Renew subscriptions for Frontline, Blackboard, Powerschool, Classroom Management, Single Sign On Begin deploying Windows 11 on new computers. Develop migration plan for existing computers. Run Technology Levy to support sustainability of objectives
4. Infrastructure upgrades for performance, reliability, redundancy, security, and safety	Design, construct and implement dedicated WAN fiber Monitor WAN/Internet bandwidth Rewire main campus of GFH File annual E-Rate RFP Plan replacement of Video Surveillance system at Secondary Purchase and implement pilot Digital Classroom system	Monitor WAN/Internet bandwidth Rewire PGEC File annual E-Rate RFP Plan replacement of network switches and access points Begin replacement of Video Surveillance system at Secondary Expand pilot Digital Classroom system if feasible	Monitor WAN/Internet bandwidth File annual E-Rate RFP Begin replacement of network switches and access points Continue replacement of Video Surveillance system at Secondary
5. Ubiquitous access	Plan, purchase and implement Chromebooks for K & 1 Develop plan for 1:1 High School objective Annual technology plan with each school – maintain equity Purchase limited supply of hot spots Develop Assistive Technology guidelines and resources Develop long term plan for access from home	Purchase and implement 1:1 High School objective – 1st year Annual technology plan with each school – maintain equity Implement Assistive Technology guidelines and resources Purchase and implement plan for access from home	Purchase and implement 1:1 High School objective – 2nd year Annual technology plan with each school – maintain equity Develop technology competencies for Assistive Technology – District wide
6. Hardware maintenance to enable reliable and sustainable fleet of equipment	Annual technology plan with each school – needs and replacement Review Grant/Foundation Sustainability Models as needed Replace equipment based on 5 yr schedule and specifications	Annual technology plan with each school – needs and replacement Review Grant/Foundation Sustainability Models as needed Replace equipment based on 5 yr schedule and specifications	Annual technology plan with each school – needs and replacement Review Grant/Foundation Sustainability Models as needed Replace equipment based on 5 yr schedule and specifications Hire 1 additional Technology Support Tech to support increase of equipment
7. Support structure to facilitate consistent and uninterrupted processes and operations	Develop/Implement Incident and Change Management Processes Replace and increase Help Desk Ticket use by staff Work with Principals to incorporate more Technology at PLCs Develop schedules/rotations to increase onsite support	Work with Principals to incorporate more Technology at PLCs	Hire 1 additional Technology Support Tech to support increase of equipment
8. Security/Privacy to protect student and employee data	Annual Cybersecurity training for all staff Perform internal security assessment and remediate deficiencies Execute Data Privacy Agreements for staff requests Implement online password reset Evaluate and select laptop encryption solution Encourage Principals to implement Raptor Visitor Mgt system Evaluate strategies for Google Drive and MS Office 365 Backup Develop Incident Response Plan	Annual Cybersecurity training for all staff Conduct bi-annual security assessment and remediate Execute Data Privacy Agreements for staff requests Evaluate, select and implement self-administered password reset Implement laptop encryption Encourage Principals to implement Raptor Visitor Mgt system Implement Google Drive and MS Office 365 Backup Develop Disaster Recovery Plan	Annual Cybersecurity training for all staff Perform internal security assessment and remediate deficiencies Execute Data Privacy Agreements for staff requests Implement laptop encryption Encourage Principals to implement Raptor Visitor Mgt system Develop Change Management procedures
9. Budget funding to support technology plan	Apply for COPS SVPP Grant for Video Surveillance replacement Work with Principals for PTA and other donations Tap into ECF and ESSER funding Investigate technology grants and foundation awards	Prepare School Board Budget Committee with Technology Levy info Work with Principals for PTA and other donations Tap into ECF and ESSER funding Investigate technology grants and foundation awards	Run revised Technology Levy Work with Principals for PTA and other donations Tap into ECF and ESSER funding Investigate technology grants and foundation awards

Appendix F. Technologies to Explore

Explore use of video technology for distance learning, global collaboration and remote learning.

Video technology can open the doors to new learning opportunities around the world and also provide options for other school districts that could take advantage of GFPS course offerings. Knowledge of other cultures around the world, leads students to greater understanding, compassion, and problem solving of real world issues. Video technology can also provide options for students that cannot attend school due to illness or medical conditions. Each school should have resources available to deliver instruction via this media.

Eglass

eGlass is an illuminated transparent writing glass with a built-in camera, that captures your face and writing in the same picture, boosting student engagement to unprecedented levels. Teachers will stand behind the glass and write but also have the ability to see the class and address questions. The display can also be duplicated to a projector for a larger display.