

Rugby Public School District #5

Technology Plan 2024-2027



**Respectfully Submitted by
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Technology Department
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2024

OVERVIEW

The 2024-2027 technology plan was developed by the Rugby Public School District Technology Coordinator and Technology Integrationist and will be approved by the superintendent and the Board of Education. The Technology Coordinator and Integrationist are responsible for the management of core technologies in the district (all hardware, network, software) at the Rugby Early Learning Center, Ely Elementary, Rugby Junior High and Rugby High School. The Rugby Public School District Technology Plan will be placed on our school website for all internal and external stakeholders. The district technology plan is also presented at a public-school board meeting.

TECHNOLOGY COMMITTEE

Name	Position	School
Michael McNeff	Superintendent	Rugby Public Schools
Jared Blikre	HS/JH Principal	RHS/JH
Jason Gullickson	Ely Principal	Ely Elementary
Jennifer Zachmeier	Technology Coordinator	Rugby Public Schools
Mike Santjer	Technology Integrationist	Ely Elementary
Jessica Fritz	Library Media Specialist	Rugby Public Schools
Ashleigh Blikre	6 th Grade Teacher	Ely Elementary
Jennifer Gault	3 rd Grade Teacher	Ely Elementary
Suzanne Wieler	SS Teacher	Rugby High School
Craig Erickson	Business Teacher	Rugby High School
Kari Geisinger	Junior High English	RHS/JH

The RPSD Technology Committee members include the superintendent, principals from Rugby Jr/Sr High School and Ely Elementary, RPSD Technology Coordinator and Integrationist, a high school business instructor, RPSD Librarian, an upper elementary instructor, a junior high instructor, and a lower elementary instructor.

TECHNOLOGY VISION

Rugby Public School’s Technology Vision prioritizes providing up-to-date, dependable, and accessible technology resources for students and staff, strengthened by timely support services. With a sustainable deployment strategy, we will strive to provide digital tools that will support 21st Century Skills, personalized learning and foster an environment where every learner is empowered to thrive, innovate, and succeed in our ever-evolving world. Our technology planning and purchases will be driven by their potential impact on student achievement, ensuring resources are optimally utilized.

EQUIPMENT SUMMARY:

Teachers are issued a laptop. Laptops come with a 3-year warranty and are kept with the assigned user for five years. At the end of the hardware’s lifecycle, equipment is repurposed elsewhere in the district, or sold to staff, or discarded.

Students are assigned iPads in kindergarten in carts and classroom Chromebooks on shelves are provided in grades 1-6. Chromebooks are issued 1:1 to students in grades 7-12. These devices come with a 1-year warranty and are kept in their locations for five years, if possible. At the end of their lifecycle, they will be sold to staff or students, kept for spare parts, or discarded.

Projectors, printers, document cameras, and other peripherals are not currently on a scheduled replacement. These items are replaced on an as-needed basis.

The following table is a summary of the technology equipment that is available in our district for student and staff use. This includes the Early Learning Center, Ely Elementary, and the Rugby Jr/Sr High School. *Counts are approximate and subject to change.

	Staff Devices	Student/Lab Devices
Computers assigned to teachers, food service, office staff, and custodial.	62 Teacher 2 Food Service 6 Office 2 Librarian 1 Custodial	Student Labs: A111 -- 18 PCs A113 – 18 PCs HS Library – 19 PCs, 1 iMac Ag. Classroom – 3 PCs Mrs. McNeff Student Center – 3 PCs
Chromebooks		689 Provisioned
iPads	3	63
Interactive Boards/Projectors	53	
Printers	64	HS Library (2); Business Lab A113 (2); Business Lab A111 (2)
Document Cameras	51	
Servers	2	
3D Printer	1	

TECHNOLOGY DEPARTMENT GOALS

- 1. Streamlined Communication to Stakeholders**
- 2. Robust Infrastructure**
- 3. Safe Online Environments**
- 4. Reliable Back-up and Security**
- 5. Technology Rich Learning Environments**
- 6. Current Technology Resources**
- 7. Technology Support for Educators**
- 8. Technology Standards for Students**

1. **STREAMLINED COMMUNICATION TO STAKEHOLDERS**

Streamlined communication with stakeholders is paramount for ensuring clarity, efficiency, and trust within an organization. With advancements in education, including the increase of distance education, the list of stakeholders that schools must keep apprised of their activities and direction has expanded. RPSD strives to provide clear communication to all stakeholders by using the methods outlined below.

School Website:

The school website provides continuous online content that is easily accessible by staff, students parents, and the general public. Our current school website was launched in August 2018 and is the largest and most up-to-date source of information about our school. We purchase an annual subscription from Finalsite (formerly known as Blackboard) for our Web Community Manager webpage app. Below is a list of communication, services, and support provided on the RPSD website.

*Building links: Links to Ely Elementary, RHS/JH, and the Early Learning Center.

*Contact information: Contains email addresses for staff of RPSD and both email and phone numbers for administrative offices.

*School Foundation: Information on donations for community members, families, and alumni.

*Calendars: Current activity calendars and the official yearly school calendar, as well as a sports calendar and an Ely gym calendar.

*Announcements: General announcements are placed on our home page, as well as weekly announcements. Special announcements are also done through our school app and Facebook.

*Food Service: Information is provided on RPSD food service, and menus are posted, along with free & reduced application information, meal prices, nutrition tips, etc.

*School Board: A school board page listing our current school board members, along with their contact information and current meeting minutes and agendas.

*Employment Link: Current job openings are posted on this page with contact information.

*Technology Page: A technology page is provided with helpful links and general technology updates as needed.

*Library Page: A district library page is maintained by our Library Media Specialist.

*Student Meal Payments: A link to our online meal payment system.

*PowerSchool: PowerSchool links are posted for students grades and attendance information. Links are also posted for teachers, administrators and subs.

*Empower: Empower links are posted for student grades in K-8.

Classroom Sites:

Teachers have been provided classroom websites that are linked to our district website. Teachers may choose to post lesson plans or notices on their sites and communicate other classroom information to students and parents.

Google Classroom:

Google Classroom streamlines the process of communication and sharing assignments and files between teachers and students, both in person and through distance education.

Mass Notification System:

Our Blackboard Mass Notification system is used to push out notifications for storm closures, delays, cancelations, or other reminders as needed. This system will be updated during the 2024-25 school year as we transition to our new school website management system.

School App:

RPSD utilizes a school app, which integrates into our school website and mass notification system. Our school app can do push notifications, post to our official Rugby Public Schools Facebook page, send emails to stakeholders, and text messages. The school app will be updated during the 2024-25 school year as we transition to our new school website management system.

Social Media:

Links are placed on our website to the official Rugby Public Schools Facebook page. The Rugby Public Schools official Facebook page is managed by the technology coordinator, superintendent, and other staff as needed, based on what information is being posted.

First Class:

First Class is our internal staff messaging system. First Class is used primarily for day-to-day staff communications and notices from the school offices.

Email:

Every staff member at RPSD is provided with an @k12.nd.us email address. These are their primary school email addresses. Every teacher and student at RPS is also provided an @rugbyschools.org GMAIL address for streamlined communication in the Google platform.

2. ROBUST INFRASTRUCTURE

Connectivity:

Network connectivity and Internet access continue to be a crucial part of our everyday needs. STAGEnet provides RPS with internet access, firewalling, web filtering, and other services. STAGEnet is the statewide network that was created by the 1999 legislative session and focuses on providing broadband connectivity, Internet access, and other networking services. All state agencies, colleges, universities, local government, and K-12 are required to participate in STAGEnet.

The district leases fiber from ND Telephone. The fiber provides connectivity from each building to the main line in for Rugby Public Schools. Our fiber between buildings is single mode dark fiber. The fiber lease costs are eligible for E-rate discounts.

In March 2019, NDITD installed a new firewall. RPSD was given a VPN for external access to the security camera DVRS.

Network:

Our network infrastructure provides secured wired and wireless services. Rugby Public School district strives to provide a robust network to support the rapidly growing demands of today's educational technology needs. Each instructional classroom at RPSD is equipped with at least 2-4+ CAT6 data drops for high-speed connections. Additional drops are provided in offices, computer labs, libraries, and work rooms. In the fall of 2020, the entire backbone of the district's network was upgraded. All switches were replaced with GB Extreme Smart switches to support increased network demands due to distance education and video streaming instruction. The demand for wireless connectivity has also increased significantly over the past couple of years. In December 2020, we completed a full replacement of our wireless platform to provide stronger more reliable coverage. In 2023, a new network closet was installed in the Ely addition to accommodate the additional demands for new access points, cameras, drops, etc. We will continue to assess needs and schedule the deployment and replacement of network equipment as necessary to accommodate future technology loads.

Servers:

Rugby Public School relies on two servers: Ely Server1 and HSServer. The Ely Server1 hosts the Active Directory for all our elementary users, in addition to Back Up Exec software. The HS Server hosts the Active Directory for all of our high school users and our First Class messaging system.

The High School server was replaced in December 2019 and the Ely Server1 was replaced in September 2020. The district considered using "cloud-based" options for servers and backups but found that it was most cost-effective to continue using physical in-house servers and backups due to the amount of data we needed backed up. However, we have moved several more critical items to cloud-based options, such as the business manager software, our antivirus service, our school website, etc.

In the fall of 2023, the Symserver, which hosted our door key system, was failing, so it was virtualized to the HSServer and is still hosting the key system in that manner.

RPSD is currently registered as a Google Workspace for Education (Fundamentals) School (Formerly G Suite for Education). GWFE provides all school district users with Google accounts which offer limited, but generous, cloud server storage space. This has been a change from their previously unlimited storage. As we have moved forward without our 1:1 Chromebook deployment, students and teachers transitioned gradually into the Google “cloud” giving them universal access to their documents and files (at no extra cost to the district), while at the same time, decreasing our internal server demand. Due to the changes with Google in the summer of 2021, we now have a paid Google subscription for 20 teachers who expressed a need for services only included in a paid Google plan. In the upcoming years, we will revisit our server needs and explore the possibilities of cloud-based servers as our servers are up for replacement

3. SAFE ONLINE ENVIRONMENTS

School Filter:

RPSD utilizes the filter through ND ITD for required in-school Internet filtering for minors. Refined filtering decisions are made by the technology staff, with input from all teachers via their written requests.

Anti-Virus:

RPSD uses anti-virus software provided by ND ITD, made by Palo Alto Cortex. Cortex XDR is managed by the technology coordinator on site, in collaboration with security staff at ITD.

Firewall:

In March 2019, ND ITD installed a new firewall in our building. The new firewall prohibits any outside connections. A VPN was created with access given to specific users to access our internal servers from outside of our buildings as needed. Currently, the only devices requiring external access are the security camera DVRs and our Symserver with First Class.

Chromebook On/Off Site Filtering and Monitoring: In addition to on-site filtering, the district utilizes Blocksie monitoring and filtering software on all school Chromebooks to ensure students’ safety online while out of school on these school-owned devices. Blocksie filter categories are similar to the in-school filter categories. Blocksie allows student data to be monitored and pulled up for viewing on an as-needed basis. Additionally, classroom teachers have the option to monitor their individual class-time Chromebook use with the embedded “Teacher Dashboard.”

4. RELIABLE BACKUP AND SECURITY

Server Backups:

All district servers are backed up at regularly spaced intervals for recovery purposes automatically with Backup Exec software. The data is backed up between the two schools, rotating the backup sets.

Security Camera Systems:

Technology contributes to securing our schools with the use of video surveillance systems. We utilize a DVR at both Ely Elementary and Rugby JH/HS. We also monitor the armory classroom and locker rooms spaces that the district leases from the city of Rugby. This network setup allows IP cameras to record to each DVR. LuxRiot is the software that manages the high school cameras and Wisenet Viewer is the software that manages the Ely cameras. Administrators can recover footage for school personnel or law enforcement on an as-needed basis.

5. TECHNOLOGY RICH LEARNING ENVIRONMENTS

Classroom Technology:

Teachers will have access to technology resources that will allow them to provide more engaging and effective learning opportunities for all learners. Technology resources undoubtedly enhance learning experiences, however, RPSD will continue to recognize the irreplaceable presence of a teacher in the classroom to provide invaluable guidance. The technology department will ensure that the learning environments, both in school and remote, are current and meet the needs of all students.

Each instructional classroom will include:

Teacher Laptop
Document Camera
Black and White Laser Printer
Sound systems (Surround sound/Pendant mics/RedCat/Jabra speaker, etc)
Interactive Projector or Smart panel

Other equipment also available to enhance instruction:

Tablets/iPads (Ely Elementary School)
Chromebooks
Networked color printers
USB inkjet printers
Digital Cameras
Camcorders
Scanners
3D printers

Student Devices:

RPSD believes in maintaining equity in technology for all students by ensuring all students have equal access to technology. All student devices will be up-to-date and support standardized testing and all other district apps as needed. RPSD will maintain an adequate number of devices to accommodate users per location and will maintain a 1:1 student to device ratio as follows:

Kindergarten	Classroom-based iPad access. Devices used in school only. Devices can be sent home on an as-needed basis.
Grades 1-6	Classroom-based 1:1 Chromebook access. Devices used in school and are sent home as needed.
Grades 7-12	1:1 Chromebook access. Devices assigned to each student with carrying cases to carry to and from home at the beginning of the year. Devices are collected at the end of the year.

Software:

RPSD subscribes to or purchases several software programs and extensions each year that enhance 21st Century learning. Software requests beyond the basic image installations are submitted by teachers and approved by the administration.

Our basic district image includes:

- **Windows 11 (or Windows 10)** -- Operating software
- **Microsoft Office 365** – Productivity suite with Excel, Word, PowerPoint, Publisher
- **First Class** – Internal messaging service
- **Cortex XDR** -- Anti-virus

Additional Software and extensions available at RPSD:

**This list is subject to change*

- **BrainPop** - Engages students through animated movies, learning games, interactive quizzes, primary source activities, concept mapping, and more
- **Google Apps for Edu** – A suite of web-based collaboration applications that Google hosts, such as Classroom, Docs, Sites, etc
- **Follett Destiny** –Web-accessible database of library listings within the district
- **RAZ Kids** -- Online guided reading program with interactive eBooks, downloadable books, and reading quizzes
- **Office 365** – An email suite with OneDrive and access to 5 licenses per user of Microsoft Word, PowerPoint, and Excel. Unlimited online storage space is provided for educators
- **Kami** -- PDF editing extension
- **Membean** -- English Department uses for vocabulary building

- **Screencastify** -- User-friendly screen recording and sharing extension for teachers
- **Zoom** -- District streaming purposes
- **Nearpod** -- Interactive lessons
- **IXL** – Subscription bases learning enhancement
- **Photoshop** – Yearbook design use
- **Dreamweaver** – Desktop publishing student use
- **SeeSaw** – Elementary instructional platform for students
- **Blocksi** – Chromebook filtering and Teacher Dashboard for student Chromebook monitoring

Testing:

Technology assists administrators, teachers, students, and parents in the administration, collection, analysis, and reporting of learning progress, and allows the district to see that students have achieved essential standards that will prepare them for the next level of learning. RPSD will maintain sufficient student devices and meet the network requirements for district-wide administration of the NDSA and NWEA. RPSD will also support testing for juniors taking the ACT online. The technology coordinator and technology integrator will manage the configuration of all testing devices. All the testing platforms are available through secure browsers and are accessed through kiosk apps on school Chromebooks or iPads.

The technology coordinator and technology integrator will work with the school counselors on attending yearly training for test preparation, scheduling the testing sessions, as well as making sure devices are updated and configured properly for testing. Technology staff will also provide support to proctors during all live testing sessions.

6. CURRENT TECHNOLOGY RESOURCES

A replacement schedule helps keep devices current and allows an organized plan for the budgeting, rotation, and deployment of equipment. It had been standard practice to rotate equipment on 4-year schedule. However, beginning in 2016, RPSD began to rotate computers on a 5-year rotation schedule, and Chromebooks on a 5-6 year rotation schedule. Due to the nature of Chromebooks in their build and use *and* auto update expiration, some have had to be replaced before the 5 year schedule. As a result, the Chromebook replacement each year is assessed in the spring. Peripherals will continue to be replaced on an as-needed basis.

This rotation schedule is always subject to slight changes each year due to staff changes, need changes, and budget changes. It is simply used as a guide to help the technology coordinator plan

2020	2021	2022	2023	2024
<p>Chromebooks (225) \$50,000 (4)Foster (4)Bush, (6)Johnston (6)Blikre 7th: Ralph, Tormanen, Seykora, Geisinger Extra 20 for COVID in HS Lib. storage</p> <p>A113 NUC Lab (18) *CP \$1,200 ea. McNeff Skull NUC \$1700 Ely Teacher LT (31) \$999</p> <p>Desktops: Ely Sec. NUC \$1,100</p> <p>Gr. 3-6 and JH Proj. \$ Gault, Paul, Harbaugh, Foster, Bush, Duchscher, Blikre, Groves, Johnston, Mattson, Thoreson</p> <p>*Added new 6th grade this year Groves took his CB to modular Savannah took hers to 3rd Ashleigh got new ones in 6th *District Wi-Fi install & switches Ely Server (Replace in 2028-30ish)</p>	<p>Chromebooks (200) \$56,000 Grades 1-3 20 each: Thiel, Yoder, Sobolik, Williams, Harbaugh (HS) 25 each: Lemer, Jacobs, Chaussee, Bacon</p> <p>Laptops (6): J. Blikre, Welk, Sweet, Walker *Welk MacBook P. Harmel, Trottier \$1,400 ea.</p> <p>Desktops: Ely Librarian, Zachmeier \$1,200 ea.</p> <p>Sweet's to repurpose, possibly to her para</p> <p>Ely Sound Systems? \$35,000</p>	<p>Chromebooks (170) \$52,020 Grade 5: Risovi, Duchscher Grade 3: Gault HS: Johnson, Miller, Green, Erpelding</p> <p>Desktops:, Upgrade Lake to Win 10</p> <p>Desktops: Ag (6) *CP \$1,000 ea.</p> <p>Walker Math Cart? \$20,000</p> <p>HS projectors: A113, A111 (\$CP)</p>	<p>Chromebooks (25) A. Blikre</p> <p>Desktops: HS Art NUC \$1,200 *cut, move to teacher LT/rotation</p> <p>Trottier Lab (18) *CP \$1,284 ea.</p> <p>Ely Remodel Ruckus Aps 2023</p> <p>Projectors: (11) Ely Music, Olsen, Johnson, Miller, Bacon, Wieler, Jacobs, Lemer, Lovcik, Welk, Green</p> <p>Okke Smart Panel</p> <p>61 HP40040 BW printers (lease) 7 HP CLP</p>	<p>Chromebooks (125) Groves, Geisinger, Block, Seykora; Scheider (20 to 3rd gr)</p> <p>Laptops (30): High School Teachers</p> <p>Smart TVs (Welk, Schell)</p> <p>Smart Panel (T. Hager) ? Projectors (Wurgler, Senechal)?</p> <p>Sound Systems (Ely)?</p> <p>Louanne Leer DT?</p>
<p>2025</p> <p>Chromebooks: (110) L. Lemer, Jacobs, Wieler, Bacon? *these would be 2 years early</p> <p>A113 Lab (19) McNeff Skull NUC DT Ely Teacher LT</p> <p>Ely Sec. NUC DT HS Sec NUC</p> <p>Ely 1st, 2nd Projectors?</p> <p>Ely Sound Systems? \$50,000</p>	<p>2026</p> <p>Chromebooks: (70) 4th, Johnston</p> <p>Laptops: J. Blikre, Walker, P Harmel, C. Erickson</p> <p>Desktops: Ely Librarian, Zachmeier</p> <p>Ely 3rd, 4th, 5th, 6th projectors?</p>	<p>2027</p> <p>Chromebooks: (215) 1st, 2nd, Heilman, HS: Lemer, Jacobs, Wieler, Bacon)?</p> <p>Michell Lake DT</p> <p>HS Band, HS Art Projectors?</p> <p>HS Server?</p>	<p>2028</p> <p>Chromebooks: Gault, Duchscher, Risovi; HS: Green, Lemer, Miller, Erpelding (175)</p> <p>HS Business Lab A111 (19) ?</p> <p>1st, 2nd, Projectors?</p> <p>Ely Server?</p> <p>District Wi-Fi?</p>	<p>2029</p> <p>Chromebooks:</p> <p>Laptops (30) High School Teachers</p> <p>3rd, 4th, 5th, 6th Projectors? Printers?</p>

7. TECHNOLOGY SUPPORT FOR EDUCATORS

Technology Support:

Reliable technology support for teachers is crucial for facilitating seamless integration of digital tools into the classroom to enhance learning outcomes. Technology trouble-shooting assistance is available to teachers daily during scheduled technology work time from the technology coordinator and technology integrationist. These hours vary due to extra duties assigned to these positions. The district technology coordinator will provide technology support to the Early Learning Center, Ely Elementary, and Rugby Jr/Sr High School users. The technology integrationist will provide support at Ely Elementary and assist as needed at the other buildings. Teachers and staff will utilize First Class to submit help requests. The technology coordinator and integrationist are dedicated to delivering timely support to ensure smooth and efficient utilization of classroom technology.

Technology Training & Professional Development:

Training on new equipment and/or software will be provided as needed for teachers to ensure proficiency in all classroom software and hardware. Technology Professional development will be relevant and assessed yearly by district administrators.

Some entities that are available to provide professional development within the Rugby Public School District are RPSD technology staff, instructional coaches, EduTech trainers, professional trainers from vendors (Connecting Point, Empower), and Google (online training). Professional development meetings with building principals and instructional coaches will also provide assessment of technology skills and needs through their observation.

It is important that we provide opportunities for teachers to learn and explore new technologies to inspire them to provide more engaging and effective learning opportunities. Technology staff will join efforts with administration and instructional coaches to identify other needs and then plan for learning opportunities based on feedback. Future training sessions may be scheduled throughout the school year during Professional Learning Days that are built into our school calendar.

8. **TECHNOLOGY STANDARDS FOR STUDENTS**

RPSD will reference North Dakota Library/Technology Literacy Standards, and support work towards continuous improvement to develop the student skills necessary to continue their education or begin skilled careers. As technology advances, our technology standards will also advance and adapt to improve and individualize student achievement.

RPSD will also work towards meeting new cybersecurity education requirements. North Dakota's HB 1398, signed in March 2023, requires all K-12 schools across the state, and at all grade levels, to provide instruction in computer science and cybersecurity. This makes North Dakota the first state in the nation to require cybersecurity education. By July 2024, RPSD must show how they will integrate academic standards on computer science and cybersecurity into coursework. High schools must also provide students with the opportunity to take a stand-alone class in at least one of these subject areas. To graduate, students will need to have taken a stand-alone course or completed the school's integration plan for cybersecurity and computer science education.