VOORHEES
TOWNSHIP
PUBLIC SCHOOLS

Technology Plan for Digital Learning

2023 - 2026

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Introduction

Preserving the status quo is, almost by definition, an inherent part of the mission of an organization. Schools, like most institutions, have built-in and resilient mechanisms for thwarting innovation. Our education infrastructure is a massive institution involving hundreds of organizations and millions of people. Moving it from the 18th century through the Information Age is an innovation of monumental proportions. We must recognize that this change is not a product but a complex process. If the process is to yield substantive change, it must be managed throughout its three phases - planning, implementation and ongoing management. Over time, if the process works, a mutual adaptation occurs.

During the planning phases, a strategic vision should be developed and the problems to be solved with technology defined. To be successful, the vision must integrate educational goals, human resources and technology. The vision must be implemented from the classroom upward, because teachers have a de facto veto power over what happens in their domain. They must be brought into the process.

The vision articulated in the plan should demonstrate how the technology will be used to engage students, enabling them to solve problems, think critically, communicate and collaborate effectively in the global community.

The primary tasks of the initial phase are to integrate the human and technical aspects of technology-related education, to forge new roles, and to establish authority and accountability to support the new shift in both instructional and organizational processes.

The task of ongoing management is to maintain and support the new system as efficiently as possible. The majority of costs for both human and technology resources occur in this institutionalization phase. The implementation process will function well only if at each stage there are linkages between the educational problem to be solved and the changes in organization. At the same time, technical and organizational changes must be integrated under leadership with vision.

This plan addresses problems identified by the staff that could be abbreviated through the use of technology, and it offers new goals for achieving desired outcomes.

With all plans there becomes a real need at some point to adjust to the changes that occur in the immediate environment. We believe the administration and teaching staff of the school district are capable of implementing the plan and making appropriate updates when necessary.

We believe this plan is the blueprint for moving our students through the 21st century, as we seek to ***Inspire, Engage, Innovate***.

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Executive Summary

The Voorhees Township School District has evolved as an organization that recognizes the benefits of providing technology-based initiatives, and it continues to demonstrate a high level of commitment in the implementation of a successful and comprehensive educational technology program. In both instructional and administrative settings, the appropriate selection and configuration of software and hardware resources has truly enhanced the quality of the teaching/learning process and the communication and management of related information.

The district's educational technology mission statement reflects a perception characteristic of the educational community in Voorhees Township that the integration of technology in all academic content areas, the development of information, media and technology literacy skills, and the establishment of a foundation for life-long learning are critical contributors in the success our overall educational program. With both the National and New Jersey Future Ready Framework at its focus, all other areas included in this plan provide the support structures required for the district as an organization to be successful in accomplishing its mission for digital learning.

Instructional Mission Statement

Strive to meet the unique needs of all stakeholders by providing comprehensive, innovative, and creative instructional programs that prepare lifelong learners to succeed in an ever-changing global society.

Vision: Defining the Future School Environment

Although the prediction of future events in any arena generally may be considered to be a bold or risky endeavor, in these times of public scrutiny of educational institutions and traditional practices, changing family structures and economic unrest, the crystal ball is cloudy. Furthermore, attempting to envision the precise impact that emerging technologies may have on the school environment and society may be futile, when the simple act of predicting what these technologies might be is so difficult.

We live in a world where change has become the constant. As a result, the world as we knew it even as little as ten years ago, no longer exists. Hard as it may be to accept, ten years from now, today's world will have recreated itself many times over.

By evaluating the available research, examining current trends in society, education and technology, and factoring in local environmental variables as can best be anticipated a potential future scenario may be crafted. The importance of this allows the school district to position itself to arrive somewhere close to this scenario in the long run, by planning and implementing initiatives which meet more immediate needs and serve as prerequisites to achieving long term goals.

The identification of knowledge and skills that today's students need for the future has evolved into several trends reshaping the structure of public education in our nation. Some common threads running through proposed reforms, such as the blending of content knowledge, specific skills, expertise and literacies, will continue to impact the Voorhees Township School District and serve to shape the overall educational environment. Personalized digital learning approaches, such as redesigning classrooms and teaching methods, effectively using technology, are needed to ensure that all students have the opportunity to achieve master of the skills and knowledge that will prepare them for college and careers. These include thinking critically, using knowledge and information to solve complex problems, communicating effectively, learning how to learn, and developing academic mindsets. Required change will affect not only the school district's instructional program, but also the ways in which it operates, manages people and information, and communicates.

Designed instructional activities will increasingly require student-computer ratios of 4:1, 2:1, 1:1, and in some cases 1:2 (or more), necessitating that a varying number of appropriately equipped computer workstations be available in each classroom for constant student use. This includes use of emerging products such as portable handheld devices and special-purpose information appliances, whether they belong to the school district or are personally owned by students themselves, leveraging wireless technology to provide flexible mobility. Innovative instructional schedules, methodologies and classroom management strategies will be employed in all curriculum content areas, allowing students to routinely use technology in their pursuit of knowledge and the development of required skills.

Opportunities for student collaboration in project-based learning will exist both within and beyond the walls of the classroom, whether an isolated exchange, a social media interaction with one or more concurrent partners, a shared desktop presentation, an electronic field trip, or a scheduled videoconference-based class session. Every student will be able to communicate and share ideas and information with others in remote locations on a regular basis, from any classroom or from home using emerging social networking and other Cloud based tools. Text, images, voice, and video will be exchanged effortlessly and responsibly as students travel down new pathways, participate in virtual communities or visit electronic venues of information using vehicles of technology.

Most technology-based reference materials will be available and accessible in every classroom or on student personal devices in an on-demand fashion. Whether a full-length video, a live broadcast or real-time conference, a collection of sounds or images, or bodies of text, media libraries and communications links will provide the necessary instructional content. Accompanying metadata will allow for indexing and the performance of rapid searches. These information-rich environments will provide content that will be current, easy to locate, accessible and comprehensive. Remote access to resources will be made available for independent learning, evening access and for homebound or traveling students, as well.

Although the teacher's role will continue to move toward facilitator of learning in project-

oriented activities, large group instruction will still be a vital instructional strategy. The sharing of information from these new information sources within or among classrooms, by both teachers and students, will be facilitated by the presence of large-screen interactive displays, projection devices or collaborative digital whiteboards. Multimedia and collaborative tools will evolve and be easily customized to more effectively capture the interest of students, address their unique learning styles and engage them while they learn.

Teachers and administrators will continuously increase their utilization of technology to gather, manage and report information using the computers on their desk, or from any location using a portable computer, handheld or wearable device. Their ability to collaborate in the completion of tasks, locate and procure instructional and non-instructional resources, and share ideas will be enhanced significantly. The simplification of clerical or administrative-oriented tasks for staff helps to increase the amount of time available for instructional planning and leadership activities.

Teachers will be better able to exploit new lines of communication between the home and the school. Time factors require that parent-teacher relationships be maintained routinely with voicemail, e-mail, messaging, interactive web pages, learning management systems, and social media, to complement the traditional phone calls and face-to-face conferences. Face-to-face conferences may also be conducted between teachers and parents in remote locations via desktop videoconferencing, streaming video, or emerging virtual (simulated) environment technologies.

The school and district will demonstrate increased utilization of digital media in its efforts to provide the community with information. Secure parent access to student information related to attendance, assignments, grades, and discipline will provide comprehensive snapshots of student progress in a self-service format, while arrangements for automated notifications, alerts or subscription-based content using these resources may be used to provide real-time updates about relevant changes as they are made. Additional interactivity on all of our websites, social media, or integrated into mobile apps, will allow community members to respond to surveys, post comments or questions, or otherwise interact on important topics, providing valuable input into the decision-making process. Forms for student registration and other purposes may be available online for completion at parent convenience. Remote access to public meetings or events may be facilitated through live streaming media webcasts or chat sessions delivered securely over the Internet, with content from these proceedings available after the fact, on demand or by subscription, in the form of a podcast. These measures will help to ensure continuous exchange of important information between the home and school.

The bond between the school district and community shall also be enhanced through the provision of access to available technology resources. Adult education opportunities focusing on the development of technology skills will become more practical, while information and communications systems will become more available to instructors of courses in other areas. Provisions shall be made so that use of online references, applications and communications systems may be afforded to community-based groups for organizational use. This will be accomplished by physically opening the available facilities for supervised use on-site, and by

providing remote access to resources from the home or workplace.

Beyond consideration of the precise types of tools, operating system platforms and vehicles for connectivity that will be available, more from a conceptual standpoint, the district technology committee envisions the walls of the traditional school to be figuratively broken down as we proceed through the early years of the 21st century. As communications systems and information appliances evolve to the extent that digital information (i.e., data, voice and video) will converge and will be readily available at any location, opportunities to access, share, provide and expand knowledge will continue to reshape the structure of schools, the art of teaching and the means by which students learn.

School and district leaders must manage the associated risks as we scale our use of artificial intelligence (AI). In recent years, following technological breakthroughs and advances in development of machine learning (ML) models and management of large volumes of data, organizations are scaling their use of AI technologies. The use of AI and ML has gained momentum as organizations evaluate the potential applications of AI to enhance the user experience, improve operational efficiencies, and automate business processes. Growing applications of AI have reinforced concerns about ethical, fair, and responsible use of the technology that assists or replaces human decision-making. Implementing AI systems requires careful management of the AI lifecycle, governing data, and machine learning model to prevent unintentional outcomes not only to our district's brand reputation but, more importantly, to workers, individuals, and society. When adopting AI, it is important to have strong ethical and risk management frameworks surrounding its use.

The changing face of the technology-rich environment and the openness of communications delivery systems will increasingly, and unfortunately, continue to include many new risks for users related to their information, applications and equipment. Technology managers must continuously assess these threats, such as hackers, viruses, spam, and various forms of malware, and then provide security measures that may prevent and/or address the impact of attacks on both technology resources and their users. Technology users must be active participants in the protection of the resources they use with the guidance and support of technology managers. Caution also must be taken, with heightened awareness, concerning Cyber safety and the potential for risks users often take while interacting in social networking environments, on commerce sites, or in any circumstance when the exposure to inappropriate content and/or the sharing of personal information is involved.

Provisions for fault tolerance and disaster prevention/recovery will receive heightened emphasis as access to data, digital content and resources becomes more critical in the operations of all facets of the school district. This will also be more pronounced as the school district attempts to interpret and apply existing regulations for traditional analog information in its new digital formats, such as copyright, privacy, records retention and discovery issues.

Users, both students and staff, will all be held more accountable for their technology use behaviors related to threat prevention and management, digital content utilization, productivity

during the workday, and interpersonal relationships. Establishment of clear policy, refocused staff development and instructional programs, and supervision will all contribute to emphasize the ethical and societal components of technology use.

Technological development often forces change, and change is uncomfortable. Mastering change created by technology requires the ability to work with discomfort. As we begin to understand the connection between new technologies and our capacity for embracing them, we must find ways to become more quickly adept with these new resources.

The school district's vision lies less with technology and more with the importance of developing the mind set or paradigm of the people who use the technology. Paradigm determines how well we handle changes, and dealing with change requires individuals to cultivate a unique set of attitudes and skills that are necessary if we are to successfully leverage the changes for our benefit. It is mindset that determines how people visualize the potential of a new technology and how it may be used to enhance our professional and personal lives, and if driven by a desire for comfort that outweighs the potential benefits of implementation, even the most powerful of new technologies have limited impact. The key to our success in the emerging technology-oriented global culture of the 21st century is being able to make a radical shift in our mind set and paradigm for life.

Educational Technology Stakeholders

The educational community of the Voorhees Township School District is comprised of many distinct groups, each holding a stake in the overall educational program provided by the district. As the presence and utilization of educational technology continues to grow and pervade in all facets of the organization and delivery of our educational program, because of the support and financial commitment which makes this technology accessible, the district has a responsibility to ensure that it meets the technology needs of all its stakeholders.

Students are both the product and the client in the industry of education, and the educational enrichment that may be provided through an appropriate implementation of instructional technology lends itself to the future preparation of students as lifelong learners and participants in a technological society.

Parents and community members are the consumers of our educational program. They generally support the concept that new tools and changed methodologies are necessary in our schools to best help ensure the success of today's children - their children - as they prepare to participate in or lead in an evolving society and workplace. The presence of technology-based resources in the schools also provides community members with access to productivity tools and continuing education opportunities for themselves.

The Board of Education has a responsibility to the taxpayers to provide the best educational

environment for the students in the township. They are accountable for ensuring that the system is effective in achieving all of its educational goals, meeting the needs of society and the local community in serving its children. The commitment and support of the Board of Education is crucial if a school district is to be successful in implementing a technology-based solution in schools.

Teachers, sometimes with the assistance of **instructional associates**, have the responsibility of providing educational experiences for students that are motivating and lead to learning. Technology-based tools for instruction offer new avenues for teachers as they try to provide an exciting and enriching environment. Technology-based tools for productivity assist teachers in performing some of their management and clerical duties, which provides increased time for lesson preparations, parent consultations and other professional activities. Proper staff development and support is required to ease the stress level often associated with the implementation of new and unfamiliar tools and methodologies.

For real instructional technology integration to occur in the school curriculum, **administrators** must play an important role as instructional leaders. Serving as change agents to encourage, motivate and support teachers as they explore new instructional methodologies using new tools, they must exhibit a high regard for the teaching/learning process and potential that technology provides. Technology-based tools for information management and communication benefit administrators. By utilizing tools that decrease the amount of time required to perform administrative tasks, more time is available for activities more directly linked to enhancing the educational process in a school or across a school district. **Administrative support and operations staff members** also play a key role in facilitating information management and communications requirements, maximizing the potential for administrators to perform these leadership duties.

Government Agencies, **Corporations**, **Universities** and **Non-Profit Organizations** are identified as external stakeholders as the well-being of these institutions is dependent upon the capabilities of individuals within these organizations to attain success. Increasingly, it becomes vital that these entities take an active role in ensuring that the future workforce is appropriately skilled. Through participation in cooperative partnerships, generation of funding, or the provision of human or material resources, these organizations must have a share in cultivating technology- and information-rich learning environments.

Guiding Values and Principles

When investing in technology-based solutions, appropriate and responsible decision-making, should be guided by a common set of values and principles congruent with the educational philosophy of the school district. In the Voorhees Township School District educational technology initiatives should:

- Be used to raise community awareness of the benefits of technology in the schools with respect to its implementation today and in the future
- Prepare students to be productive, contributing members of a technologically advanced society
- Support, enhance and optimize other district educational goals, to include successful compliance with the New Jersey Learning Standards
- Be aligned with New Jersey State Department of Education and national technology goals
- Enhance stakeholders ability to research, organize and present information
- Enhance personal and professional life-long learning skills
- Prepare students, staff and community members to become safe, responsible and ethical users of technology
- Support and encourage staff learning new technology through training and technical support
- Promote parental awareness of need for students to use digital tools, providing both a rationale and guidance
- Provide appropriate information access for all stakeholder groups, adapting formats where necessary to provide for special needs
- Simplify tasks for all groups
- Diversify teaching to address multiple learning styles
- Foster motivation to learn
- Aid in problem-solving strategies
- Serve as a bonding agent in the development and maintenance of partnerships
- Reflect cost effective decision-making
- Facilitate process of change
- Provide avenues for global communication and collaboration
- Implement a data governance structure that ensures appropriate data use, management of change and support for the implementation of security and privacy protocols.
- Develop an artificial intelligence governance framework for implementing responsible, ethical, fair, and transparent AI.
- Protect the information, technology resources and their users from potential risk

As is the intent of any educational technology plan, whether authored by officials at the national, state, county or local level, this plan is intended to drive change - change which will empower members of the educational community to be life-long learners in an information- and technological-oriented society.

Although opportunities towards these ends have and continue to exist for the young people in Voorhees Township, a continuous process of evaluation and adjustment is necessary to ensure that the most appropriate tools are being used in the best ways.

To arrive in the preferred future, we must walk down a road of uncertainty. With the goals in this plan serving as a map, with strong leadership to establish direction, and with partners to provide strength and resources needed for endurance, the trip can be both exciting and

enriching. But, since this is a road without an end, the journey itself is far more important than the destination.

Evaluation Plan

On an annual basis, at the conclusion of each year or more frequently, when necessary, the educational technology planning committee reconvenes in order to review, reflect and assess progress in completion of tasks specified in the action plan. Identified persons responsible must report on each task with respect to the timeline and evaluation measure linked to each. Tasks related to every goal in each of the nine target areas of the plan are reviewed and discussed with respect to degree of completion, measures of success and any identified need to modify or adjust some aspect of any task.

As indicated elsewhere in this document, this plan must address the district's mission and vision for educational technology with respect to all of its stakeholders and the identified guiding values and principles. Furthermore, evaluation regarding the integration of technology in all academic content areas, compliance with state academic standards in all academic areas and those related to the development of information, media and technology literacy skills, as well as the establishment of a foundation for life-long learning are specifically addressed in Key Category (Gear) 1 of the action plan.

More precisely, for each of the eight (8) key categories in the district action plan, we are looking to measure growth following annual administration of each school's NJTRAx Digital Learning Surveys over this three-year period. We expect to realize an increase of at least two points on both our Digital Learning Readiness and Digital Learning Implementation scores for each school, as compared with scores recorded in 2015-16. Additionally, we expect to reduce the existing gap between each school's Digital Learning Readiness and Digital Learning Implementation score to less than one point by significantly increasing Digital Learning Implementation over the next three years. Each school's action plan contains its own plan for reflection and adjustment.

The plan is dynamic rather than rigid in structure, and included targets, goals or tasks must be modified or adjusted whenever the climate should happen to change. Many of the goals and objectives from the 2020-23 were carried over into the 2023-26 plan without revision, as they were deemed to still be relevant to our stated mission. Some of these were revised in order to be continued due to certain changes in the environment, and their inclusion within the new context is just as significant as when they were originally introduced. Many of the 2020-23 goals or objectives were not discontinued for 2023-26, as they still establish direction, intended to be continuously pursued and possibly only attainable over a significantly longer period of time than allowed in the plan. Many new goals and objectives were constructed and added into each of the target areas addressing the district's more recent needs, some spawned by unexpected outcomes (both positive and negative) realized during implementation of the 2020-23 plan, and all will be assessed at the conclusion of each passing year.

Educational Technology Planning Process

Historical Overview

The Voorhees Township School District recognizes the correlation of careful planning to the degree of success realized when implementing new initiatives. Educational technology is an area of no exception, especially due to its perceived level of societal importance (and its cost).

The inclusion of historical data in this document is to reinforce the district's belief that technology planning should be an ongoing endeavor, responsive to changing needs and opportunities. As the school district has been an active participant in educational technology practices for many years, the plans created and the processes utilized have emerged from our past experiences. This section attempts to emphasize the district's commitment of time and resources as essential elements of the planning process, and to provide the reader with a perspective regarding the baseline on which this planning document was built.

Pre - 1989

During the years before the writing of the district's first educational technology plan, members from various facets of the school community were surveyed to determine a consensus of technology needs. The administration, faculty, non-certified staff and community members were given the opportunity to provide input into the selection of hardware, software, curricular programs, staff development methods and topics, data management tools, etc. These surveys did and still focus on these target issues individually as specific needs emerge.

1989-1991

During this period the district made a considerable initial investment in securing computer-based resources and establishing the base infrastructure in each school's local area network environment. These resources included the establishment of networked computer labs, automated libraries, and single computer classrooms for special education, BSIP and ESL classrooms. Through these years teachers and students participated in an evolving computer literacy curriculum, but were also engaged to experiment with and explore new teaching methodologies and tools for instruction. Through the 1990-91 and 1991-92 school years, the district participated as a beta test site for IBM's Writing to Write Curriculum. As one of eleven districts nationwide to pilot the program and provide the company with field data, we had the opportunity to recommend changes prior to the product's first commercial release.

1991-1994

During the winter of the 1990-91 school year, following an IBM Executive Briefing held for a district subgroup in Atlanta, GA, a committee of district administrators and teaching staff

members were assembled to participate in a series of five strategic planning sessions with the intent to develop a comprehensive three-year district educational technology plan. With the cooperation and participation of an IBM consulting team, implementing the Joint Educational Technology (JET) planning strategy, the document was completed and implemented during the late spring.

The district's first Educational Technology Plan also documented the planning session methodology utilized. It provided the original technology mission statement and identified opportunities that were in existence in the district's instructional program at the time of its development. The plan offered a consolidation of problems and issues that were to be addressed, listed the requirements, solutions and benefits of these consolidated issues, and outlined the district action plan in response to the preliminary activities noted above. The action plan included specific subtasks, persons responsible, time lines, and cost considerations for each of these six target areas:

- Training
- Instruction
- Student Motivation
- Organization/Access of Information
- Communication
- Time Management

1994-1997

The second revision of the district's Educational Technology Plan also represented a three-year growth plan, largely based on the successes and failures the district had experienced during the implementation of its predecessor. The school district facilitated its evolution based on current and future needs, perceived at the time, requiring specific tools and strategies. The district established a committee comprised of teachers and administrators representing various populations within the educational community. The plan was created following a variety of data collecting activities during five strategic planning sessions.

The first phase of the planning process focused on information gathering activities, which included various educational technology presentations conducted by various educational technology consultants and district staff members. Reports from subcommittee field visitations of area school districts with acclaimed educational technology programs, an examination of the New Jersey State Educational Technology Plan, and a briefing regarding the initiatives proposed by the newly formed Camden County Educational Technology Committee (e.g., CamNet project) were included. Information was shared with the committee regarding new hardware and software products, online information networks and services, instructional and administrative practices, and global and societal implications of technology.

The second phase of the process involved a series of strategic visioning activities. Stakeholders were identified, with guiding values and principles defined. Local and global trends were scanned and forecasted, and both a vision and a mission statement were established.

Life cycles of our past and current technology initiatives were analyzed with data generated focusing on seven major areas. The action plan portion of the document included the following goals falling within these seven areas: 1) Staff Development; 2) Instruction; 3) Teacher Productivity; 4) Administration; 5) Community Access; 6) Infrastructure & Maintenance & 7) External Resources.

1997-2002

For a third time, the district had committed to participate in a strategic planning process to ensure that its investment in its educational technology resources was both appropriate and beneficial to the educational community. Although the planning methodology had varied with each revision of the district's plan, the goal remained the same.

As an initial activity, a cross-section of district staff members had participated as representatives in an initial fact finding meeting. This was a good starting point as it included a large number of staff members who contributed many worthwhile ideas.

From the pool of staff members who attended the initial planning meeting, a smaller working group was invited to serve as members on the district's Educational Technology Planning Committee. These staff members, joined by the district's Technology Specialists, a team of administrators, community representatives, and other contributing agencies were charged with the responsibility of charting the district's course into the 21st Century.

The planning process designed required that all committee members attend three full day work sessions, one or two smaller-scale informational meetings, visit and report on one or more area schools with exemplary technology programs, and participate in scheduled technology "futurist" presentations and product demonstrations. The school district had provided release time for staff members to facilitate the completion of these activities.

This planning process was designed to first present committee members with relevant information in the format of an executive briefing, and then to engage them in work sessions that focused on strategic visioning, data collection and action planning activities. As a result, the district's standing vision for a preferred future was modified and our educational technology mission statement was renewed. A situational analysis was performed on the relative state of all technology-based initiatives being implemented at the time, strategies for change management were generated and potential barriers to change were examined.

The data generated during this phase was compiled and classified within target areas. These target areas were identified as solutions-based initiatives or support structures. The Action Plan portion of this document was developed to include goals related to each of these target areas,

tasks related to each goal, responsible persons named for the completion of each task with timelines, linkages with other programs, resources required, benchmarks and estimated cost information identified.

All components developed were reviewed to ensure compliance with New Jersey State Department of Education Guidelines required for funding from several state and federal sources, and included the establishment of linkages with both external technology plans and other ancillary local plans. The related plans identified, at least in part, serve to determine and reinforce roles and levels of responsibility of individuals, schools and the district as a whole, toward meeting the technology goals in the Voorhees Township School District.

Corporate partners and other technology vendors were consulted throughout the planning process as solutions for voice, data and video applications were placed under consideration. In addition to the review and selection of technology products and services, opportunities for educational institutions, creative-financing programs, customer support options and product futures were explored. Relationships formed or renewed in this process have continued to serve the district during the incremental implementation of this plan.

1999-2001 Update

Modifications and enhancements made to the original (1997-2002) five-year plan were the result of data gathered during 1) monthly Board of Education meetings, district administrators meetings, school staff meetings and parent-faculty organization meetings; 2) weekly computer specialist meetings; 3) monthly Camden County Educational Technology Committee meetings 4) monthly local and regional distance learning consortium meetings; 5) Bi-monthly Voorhees Educational Technology Association meetings.

Additional input/feedback was collected from the community via correspondence as a result of information published on district and school web sites, press releases, district and school newsletters, school calendars, Board of Education meeting notes, and other relevant publications.

The district's main goals for technology initiatives through the year 2002 were established in order to meet district technology needs, as identified by both the original and revision planning committees. They were set within the nine major areas of the action plan and broken out into two larger categories:

Solutions-based Initiatives

- Instructional Technology Programs and Initiatives
- Administration and Teacher Productivity Initiative
- Community Access Opportunities

Support Structures

- Facilities, Hardware Resources and Infrastructure
- Software and Online Resources
- Staff Development Programs
- Educational Technology Staffing
- Maintenance, Service and Support
- Technology Resource Acquisition

2001-2004

A task force was created consisting of the Director of Educational Technology, and the school district's eight (8) Technology Specialists; four based in elementary schools, three based in the middle school and one centralized staff member servicing the entire K-8 structure.

Each task force member served as both a chairperson and representative for building-based subcommittees consisting of building-level and central office administrators and support staff members, regular and special education teachers, librarians and community liaisons. In their usual role of Technology Specialists, these task force members not only regularly keep abreast of research, trends and developments in technology impacting the educational environment and society at large, but they also have hands-on experience and a strong sense of the specific problems, issues, requirements and potential solutions as related to their separate constituencies.

In a decentralized approach, site-based planning subcommittees each met independently to evaluate the status of the existing technology plan. The group examined the plan for both degrees of completion and continued relevancy of goals and objectives. Within the context of the nine (9) target areas from the previous plan, and with an eye toward current trends and future opportunities in educational technology, current problems and technology-based solutions were identified and prioritized.

Each committee member received an edited copy of a NJDOE checklist, originally provided by the Camden County E.T.T.C., in advance of the initial meeting. The committee members were directed to use it as a guide in examining the current plan (1999-2002 Update) prior to attending. The checklist was distributed containing text representing a description of data required in the new document, as well as notes, observations, recommendations, etc., regarding how the new required items relate to information already included in the district's current plan.

Subcommittee feedback in the form of recommended insertions, deletions and modifications to the existing technology plan were gathered and provided to each of the representatives. Information was developed via a combination of group discussion, informal dialogue, and use of survey instruments.

Each member brought his/her consolidated subcommittee recommendations back to the task

force in a general meeting. The group worked through the items requiring the least amount of effort and discussion during the first portion of the meeting, with the Action Plan (Target Areas, Goals & Tasks) revision consuming the balance of the available time.

Edited copies of core components of the plan were distributed to the committee members as available via e-mail attachments. Changes reflect those agreed upon by the group during the initial planning meeting. Copies of the edited Executive Summary, Action Plan (Target Areas, Goals & Objectives components), Planning Process, Current Environment components and Appendices were revised and shared with the committee members as they had become available. Recommendations for change, discussion and consensus were reached collaboratively using e-mail tools.

New additions to the plan were also developed, with drafts being periodically sent to all technology specialists seeking feedback from school-based subcommittees. These components include Student Technology Proficiencies by Grade Level, and Educational Technology Competencies for both teachers and administrators. The development of these new components consumed a significant portion of two follow-up planning meetings. These components have a significant impact on instructional technology integration planning strategies and staff development program development.

Additional community input had been obtained using a survey instrument designed to specifically address the Community Access Opportunities component of the action plan. Feedback concerning ways the district may use technology to improve home-school communications, provide access to technology resources and update information technology adult education courses was gathered. The Voorhees Township School District Information Officer and the Director of Community Education and Recreation had both contributed in the development of the survey instrument.

The survey was administered to the following groups: 1) Board of Education members; 2) Voorhees Educational Technology Association (V.E.T.A.) foundation officers; 3) Parent/Faculty Organization officers & Key Communicators Committee members. These groups are proven supporters of the school district and serve as representatives to larger bodies of community members.

All remaining feedback and input by subcommittees and community members were considered as the remaining components of the plan were completed. A final planning meeting was held, during which final decisions were made and house-keeping items were completed.

Board of Education Approval and submission of Technology Plan to County Office for approval had taken place in May, 2001.

At the conclusion of the strategic planning process, the Educational Technology Planning Committee had reaffirmed the continued viability of the nine (9) target areas that were included in the last two revisions of this document.

Solutions-based Initiatives

- Instructional Technology Programs and Initiatives
- Administration and Productivity Initiatives
- Community Access Opportunities

Support Structures

- Facilities, Hardware Resources and Infrastructure
- Software and Online Resources
- Staff Development Programs
- Educational Technology Staffing
- Maintenance, Service and Support
- Technology Resource Acquisition

2004 - 2007

As was the case in previous technology plan revisions, we initiated the planning process with information gathering, exposure and discussion in the format of a staff work session. Session participants were selected based on their background and experience in working with technology resources, media content and communications systems over the past years, and most have held some level of responsibility in serving as information and/or technology resource and support agents for other staff members. Administrator participants have an awareness of district curriculum and technology goals, logistical barriers and potential opportunities, staff needs and motivators, and provide required leadership.

The session began with introductory comments providing an explanation of the purpose for the meeting. The meeting agenda was reviewed with the desired outcomes revealed.

The next portion of the session called for the establishment of several small workgroups, each assigned a technology specialist as a resource and charged with the completion of a sequence of tasks created for each of ten (10) designed activities. The purpose for each activity was to allow the participants to work with a different "e-learning" resource available today in their schools, explore them at a fairly complex level, and engage in discussion and problem solving throughout the process. The groups were able to rotate through most of the activities during the morning portion of the work session. With that, discussion of the management, maintenance and support requirements allowing for the existence of these resources in the classroom was drawn out with individual groups during the activity.

As the nature of many of the examined resources expressly involve the manipulation and sharing of various media forms (content) as well as communications (people), whole group discussion examining legislation, policy and procedures dealing with copyright vs. fair use, and parental permissions were included in the process.

With an experience baseline established after working through the ten distance learning activities, and relevant discussions, the primary focus of the afternoon's discussion session was to: 1) identify opportunities for employing the use of these available resources; 2) examine some of the benefits for enhancing instruction, staff development and productivity; 3) list required conditions leading to successful implementation; 4) recognize obstacles hindering progress; 5) explore motivators for increasing staff participation; and finally 6) construct legitimate recommendations for systematic change that affords the district a better approach to achieving its goals, beyond what it's doing already.

As a follow-up to the initial meeting, the district provided a ½ day hands-on staff development session in every school over the course of several months during the spring of 2003, providing full day substitutes to cover both a morning and afternoon group of teacher participants, as well as selected community members. This program provided several small-scale learning activities allowing participant groups to experience many of the new technology resources available. Enough sessions were scheduled to include every building teacher and community representative, and all of the district's technology specialists participated in every session as group leaders. Feedback was obtained from every participant and this data was analyzed and used in the revision of goals and tasks incorporated in the plan.

The community at large was also afforded the opportunity to participate in a comprehensive survey that included items designed for the purpose of educational technology planning. This survey was conducted in the fall of 2003 via the district's web site.

Additional meetings were held with district technology staff members serving as building and community representatives. A complete review of the required revision elements of the plan as prescribed by the NJDOE was provided, a final task-by-task assessment of the former action plan was conducted with respect to continued relevance, and new goals and tasks were created in the identified target areas as a result of staff and community input.

By more aggressively pursuing the implementation of the recommendations made as incorporated in the revised action plan, it is hoped that we may: 1) Pursue equity by increasing significantly the number of students that are afforded opportunities to benefit from the provision of learning experiences that utilize educational technology resources on a more regular basis; 2) Raise levels of expectation and provide assurances that our staff will regularly use educational technology resources following varied approaches to motivation, appropriate levels of staff development and the reformation of various types of support structures; 3) Dedicate the required level of manpower and expertise to ensure that systems that provide access to educational technology resources may be properly administered, maintained and can evolve in proportion with our changing needs; and 4) Engage in continuous project assessment and provide necessary modifications to ensure that the district realizes a maximum return (i.e., educational benefits) on its investment in costs associated with communications services, infrastructure, staff, staff development, media content licensing, and support services.

As was the case in past revisions, the nine (9) target areas that were again reaffirmed as comprehensive and viable:

Solutions-based Initiatives

- Instructional Technology Programs and Initiatives
- Administration and Productivity Initiatives
- Community Access Opportunities

Support Structures

- Facilities, Hardware Resources and Infrastructure
- Software and Online Resources
- Staff Development Programs
- Educational Technology Staffing
- Maintenance, Service and Support
- Technology Resource Acquisition

2007 – 2010

The district's initial planning activity was to administer an online technology needs assessment to its various stakeholder groups, with role-specific versions created for staff members based on employment area of responsibility. A community member version was provided as well, and was also administered via the district's website. Survey items were created to reflect current trends and issues related to each of the target areas that had been established in our most recent technology plan revisions.

Almost half of the included items on administrator versions of the survey were comprised of the Role Specific Leadership Tasks, published by the TSSA Collaborative and adopted by the International Society for Technology Education (ISTE) as the National Educational Technology Standards for Administrators (NETS*A). For more information on these standards, performance indicators and role specific leadership tasks.

Data collected via these survey instruments were aggregated and reviewed by a group of the district's technology specialists, and then compared against the goals and objectives from the 2004-07 technology plan. The data compiled will later be shared with departments and work groups, to be used in the planning of policy, procedures and relevant staff development programs. For technology planning purposes, this data was useful in establishing direction in evaluating the present relevancy of the goals and objectives from the 2004-07 plan, as well as new targets for consideration.

Working with selected groups of teachers, media specialists, administrators, secretarial and operations staff, our technology specialists compiled building level lists of potential goals and

objectives for each target area in the 2007-2010 plan. These included recommendations for the removal, continuance and/or revision of 2004-07 goals and objectives, and the addition of new items, based on the published NJDOE required components for this revision. Much of this activity was conducted via online collaboration using the available communications and project management resources.

Target areas, goals and tasks were established for the 2007-2010 plan by the group of technology specialists, as they represented their building level task force in a planning meeting. This final list was shared back with the larger committee for approvals, along with the ancillary support components developed by the Director of Educational Technology, building technology specialists and other central office staff members.

2010-13

The needs assessment strategy employed was a multifaceted approach that considered both the internal and external forces motivating our reasons to consider making changes to our technology environment.

Revisions to many of the external plans with which our former plan had been linked had been. The ISTE National Educational Technology standards for Students, Teachers and Administrators, the Educational Technology Plan for New Jersey, The New Jersey Core Curriculum Content Standard 8.1 for Educational Technology, and the Facilities Guide for Technology in New Jersey Schools are among them. All were placed under review and discussion by the district technology planning committee.

The exploration of these documents showed a consistent alignment with the Framework for 21st Century Learning, developed by the Partnership for 21st Century Skills organization. A series of phased seminars, "Creating 21st Century New Jersey Schools: The Statewide Systemic Model for Continuous Professional Learning and Growth," have been scheduled throughout the state beginning the summer of 2009. These sessions presented various aspects of the framework, and were attended by several members of the technology planning committee for information gathering and sharing purposes.

An independent technology audit was commissioned by the superintendent of schools, with that service provided by 610 Information Systems, LLC of Voorhees, New Jersey. Evaluating the state of the organization's information technology environment has provided us with another opportunity to reflect on our current status in each of our established planning categories, identifying the strengths and exposing the weaknesses. 601 Information Systems were asked to perform a review of the information technology department, and it consisted of interviews, review of systems documentation and walkthroughs of various buildings. They conducted their review in such a manner as to understand the mindset of management as well as the approach taken to document and follow the various policies and procedures used to administer and manage the technology assets of the district. They assert in their report that Information

Technology (IT) governance is a critical issue to any organization, and they selected the COBIT 4.1 framework (promoted by the IT Governance Institute - www.itgi.org) as the established evaluation criteria. This report and all related information created during this project were reviewed, with recommendations included in this strategic plan.

The survey data gathered by user group in 2007 was revisited for review of the identified needs at that time. Rather than repeating the administration of a revised version of this survey instrument, instead, the technology planning committee launched a Blog for gathering feedback and inciting discussion regarding ways in which we could improve on the pursuit of our mission and vision as stated in this plan. This was an open-ended forum seeking posted comments on aspects of our technology environment in the context of the nine (9) identified target areas of the action plan. The information gathered here from the staff at large was invaluable in the formulation of new tasks.

Ongoing project-based planning activities by school or department through recent times have yielded real goals and objectives. Project leaders, including community members and parent-faculty organizations, have collaborated with technology staff to implement projects aligned with the continuing goals and objectives from this plan.

2013-16

Although no longer required by the state, nor for Priority 1 e-rate funding eligibility, we agreed that the continuation of technology planning is a vital practice. As with previous revisions, we obtained feedback and recommendations from the educational community - In addition to administrators, teachers, librarians, and other staff, we had offered parents and community members the opportunity to contribute as well.

Participant input was regularly obtained through interactions with our teachers, through membership and participation in school PFO meetings and other district groups/events that facilitated articulation among parents, and school or district officials. We had administered a short survey for the parents and guardians of our students to complete and submit, and one for our elementary and middle school teachers as well. The information compiled was often shared among our staff members during the planning process as we formulated our action plan.

For parents and staff interested in a deeper level of participation, we granted access for them as “registered” guests in an internal collaborative workspace, so that they could view relevant planning information, participate in an open-ended “Question & Answer” area, engage within a discussion forum focusing on several predefined relevant topics. These resources were hosted in a private area of the district’s web site generally reserved for staff, but “registered” community members were provided with log on account credentials for temporary access.

In the **Technology Planning Forum,** feedback to specific questions along with interactive dialog

among our administrators, teachers, parents and community members proved to be quite valuable to the planning process. The broad level of participation by all had significant value, and there were several ways to contribute:

- Continuous sharing of thoughts and ideas between teachers, technology specialists and administrators during meetings
- Completion of a technology survey designed for parents or elementary and middle school teachers
- Provision of comments (and comments on the ideas of others) on relevant topics in a discussion forum
- Initiation of new discussion topics within the context of the forum
- Posting of general questions (or provision of answers) in the Q&A area
- Joining the Technology Planning Committee, to be formed at the end of initial activities, to help revise the planning document

We established a working committee, comprised of representatives from several stakeholder groups, who worked together in an online collaborative environment. Committee members parsed the information collected, revised the vision and the mission, and modified the action plan as necessary based on local criteria and the provided NJDOE checklist.

2016-19

During January of 2014, in order to get a fresh perspective on how the use of personalized technology resources may enhance our shifting approach to instruction, a district subgroup attended an Executive Briefing hosted by Apple, Inc. in New York City. This event was very much in line with a similar activity we engaged in with IBM prior to writing our first technology plan in 1991. The group participated in discussion with Apple representatives relevant to the status of our instructional program, philosophy, technology initiatives and goals for the future. We looked at different instructional models that would allow us to move towards the reinvention of some of our current processes, explored devices and applications that offered great opportunities for teaching and learning in a personalized setting, compared the adoption rates for different users and how to leverage that dynamic in professional development planning, and agreed to revisit and adopt a more formalized strategic planning process in our activities going forward. This entire briefing was held again one month later at our location for a larger audience, the newly formed “Innovation Committee,” as a precursor for that group’s involvement in strategic instructional planning.

The Innovation Committee met again in March, 2014, to begin the process of transforming the culture for our learning environments. The group articulated a vision for how instruction should look, and then crafted a new mission statement (provided earlier in this document) relevant to the vision upon which to build. Although not unlike the previous mission statement, the emphasis is now placed on instruction rather than on technology.

From the vision and the mission statement came the slogan, “Inspire, Engage, Innovate,” which was to be used as a rally cry in an attempt to create and communicate a “brand” for the district’s new instructional culture, and the slogan now appears on signage, in e-mail signatures, on our school and district websites, as well as on virtually all forms of correspondence used by the district.

The Innovation Committee established a “To Do List,” serving as a draft for revisions made to the Action Plan component of this document. Items listed here fall into several categories within the context of this plan including Instructional Technology Programs and Initiatives; Community Relations; Facilities, Hardware and Infrastructure, Educational Technology Staffing; Staff Development Program; and Technology Resource Acquisition.

Between April, 2014, and the time of this writing, the Innovation Committee held eight (8) additional general meetings where administrators and staff convene to share ideas and learn about the latest practices. The full committee was tasked to discuss, create and plan opportunities to transform instruction, evolve professional development options, enhance communication and collaborative efforts among staff, explore new technologies, and gather information via surveys for future planning purposes. During 2015-16, each building spawned its own school-based Innovation Committee in order to address issues, set goals and pilot smaller initiatives relevant to each individual school. The larger committee was reduced to school representatives that would serve as liaisons for sharing results of the efforts of the smaller groups.

One of the outcomes of our changed instructional culture was the district’s recognition by the NJ Department of Education as an innovative school district. INNOVATE NJ is New Jersey’s initiative to support innovation and practice by fostering sharing and collaboration, cultivating projects and convening practitioners and partners. We feel our active participation in INNOVATE NJ will help facilitate next-generation instructional practices that will promote and heighten the college and career readiness levels of our students.

In the early spring of 2016, the New Jersey Department of Education launched a statewide Digital Learning initiative that was developed in alignment with the U.S. Department of Education’s “Future Readiness” initiative. The NJDOE established the NJTRAx database to gauge the technology readiness of New Jersey schools and districts for online testing as well as provide a digital learning tool.

The NJTRAx technology readiness database is designed to collect and store the datasets that inform readiness ratings. These ratings are published in reports that are customized for each school, district, region, and for the state. NJTRAx has been revised to reflect the single administration for the Spring NJSLA Assessments as well as for the possibility of field test units. The districts will continue to keep the data in NJTRAx up to date so that the data reflects the present reality of the district.

To assist districts with developing digital learning environments, digital learning surveys and reporting capabilities have been added to the NJTRAx interactive technology readiness data and reporting system. Each district school now has the ability to track and strategically plan for digital learning policies and practices. The launch of NJTRAx Digital Learning (DL) is part of the NJDOE Educational Technology's long-term Digital Learning Initiative (DLI) and Voorhees Township School district has embraced the established framework as we evolve our local Digital Learning Readiness posture.

2020-23

2020-2023 marks the 10th revision to the original document written in 1991.

Future Ready Schools (New Jersey) – Gap Analysis

We exist in an information age, powered by new technology connecting people, ideas, data, and content in rapidly changing ways. As we work to prepare Voorhees students for this world, we must ensure our schools provide them with the technology-rich environments they need in order to be engaged and successful members of a digital society and workforce. To achieve this, Voorhees schools need to continue to establish a culture of digital innovation, where educators are empowered to deepen and extend student learning through the use of technology, digital content, and media.

Based on the National Future Ready Framework, Future Ready Schools – New Jersey was created in 2017. Between then and 2018-19, the district engaged in pursuing and obtaining FRS-NJ Bronze Certification by meeting the established criteria. This was the driving force in our planning for digital learning, and the evaluation of the data collected during this process provided an opportunity to reflect on our practices and identify gaps needing attention going forward.

Future Ready Schools – New Jersey (FRS-NJ) is a certification program designed to promote transformational change in schools and districts throughout New Jersey, whether they are public, private, or charter. FRS-NJ provides the guidance, support, direction, and resources schools need to achieve "Future Ready" goals, while fostering inclusive collaboration within schools and districts, and between them throughout the state.

The program was originally a partnership of the New Jersey Department of Education (NJDOE), the New Jersey School Boards Association (NJSBA) and New Jersey Institute of Technology (NJIT). It is based on the work of the national Future Ready Schools initiative, and the structure and success of the Sustainable Jersey for Schools Certification Program. As of January 15, 2020, the program administration officially moved to The Sustainability Institute at the College of New Jersey (SI@TCNJ). SI@TCNJ is the institutional home and administrator of the Sustainable Jersey for Schools program upon which FRS-NJ was modeled.

The national Future Ready Framework, developed by the Alliance for Excellent Education, serves as an organizational umbrella for all discussions and decisions related to the use of technology in the classroom and the technical, professional, and leadership support needed to ensure the most effective and efficient Future Ready practices.

The Future Ready Schools – New Jersey certification program started with the foundation of the Future Ready Framework, and "New Jersey-ized" it so the state's districts, schools, educators, and leaders have a local support structure and framework.

The state model of the national framework has been created by FRS-NJ task forces, made up of hundreds of educators, leaders, and stakeholders, who dedicate their time and expertise to create the New Jersey Indicators of Future Readiness. These indicators help guide schools and districts towards future readiness by providing them with the knowledge of what successful Future Ready practices look like in a given "gear," or section, of the national framework. At the same time, they provide guidance, support, and connections to resources that can help them achieve success.

The FRS-NJ Indicators of Future Readiness are the heart and soul of the FRS-NJ certification program. Organized at all levels into three overarching themes that further condense the national Future Ready framework for the context of New Jersey, the themes are Leadership; Education and Classroom Practice; and Technology Support and Services.

The FRS-NJ certification process is designed to foster inclusive collaboration, organize discussions and decisions, and support school and district efforts to best prepare students for success.

Each step in the three phases of the program is designed to guide these efforts. Those phases are the district commitment phase, the school participation phase, and the school certification phase.

Phase I: District Commitment

I. Superintendent signs the Future Ready Pledge

II. The Board Resolution is implemented

III. District-Level Future Ready Team is established

IV. District Self-Assessment is conducted

V. District Commitment Pre-Application is submitted

The District Commitment Phase ensures that district leadership and staff are dedicated to supporting their school's efforts, and that these efforts are collaborative. Once our district committed, all schools in the district declared their participation and applied for certification. To

become a committed district, the superintendent first signed the national Future Ready Pledge. The board of education then passed a board resolution that established the District-Level Future Ready Team and officially declared the district's commitment to supporting its schools' Future Ready efforts.

The district's Future Ready team is both inclusive and collaborative, and consisted of members including at least one board member, the superintendent, the technology director or other IT personnel, a librarian/media specialist, a student representative, and other dedicated leaders and educators. The district then conducted a self-assessment to establish an understanding of where we stand with regard to the Future Ready Framework, and then submitted a pre-application to FRS-NJ to declare our commitment.

Phase II: School Participation

I. School-Level Future Ready Team established

II. School Participation Letter signed

III. School submits their Declaration of Participation

The School Participation Phase featured establishment of the school-level Future Ready teams, and official declaration of each school's participation in the certification program. In this phase, each school established its own School-Level Future Ready Team, which acted as the front-line team towards certification, with collaborative and integral support of the district-level team. Each school's Future Ready team was inclusive and collaborative, and consisted of the principal, a librarian/media specialist, and representatives of each academic and supporting department in the school (primarily each school's pre-existing "Innovation Committee"). Each school separately declared its participation by signing a school participation letter and submitting it to the FRS-NJ team.

Phase III: School Certification

I. School team develops an Action Plan for Certification

II. Implement actions to achieve success in the FRS-NJ Indicators of Future Readiness

III. Submit evidence of success

The School Certification Phase (https://www.frsnj.org/certifications) was the most important phase, and it enabled each school to independently apply for certification by taking actions that lead to success through the Future Ready Schools – New Jersey Indicators of Future Readiness. As the indicators are updated each year by the FRS-NJ task forces, this is the only phase that is not rolling, and has a deadline for submission. Each school reviewed the 2017-18 indicators and developed an action plan for certification based on the mandatory actions of the process, the

goals of the school, and also on the realities of the school. Indicators are organized so that schools in varying situations were able to work towards Future Readiness without being excluded due to size or organization. Our schools implemented this plan and prepared evidence for submission towards each chosen indicator. Evidence was in the form of theme-based narratives and examples of activities declared for each indicator. This design ensured accuracy in certification, provided our schools with an effective guide and process, and avoided certification being more of a burden than a support.

The submitted application, due on June 30, 2018, was reviewed by the FRS-NJ awards committee, which provided feedback and identified example submissions, to be included in the following year's indicators. In this way, the success of certified schools may inform and inspire participants who come after.

During 2017-18 cycle, FRS-NJ introduced two additional tiers of certification to provide schools that are certified at the basic level with a continued path to progress. Future Readiness is not an endpoint, but rather a continuous journey. Future Ready Schools – New Jersey will use these tiers to help guide schools and districts towards higher degrees and greater rigors of Future Readiness.

The full rollout of three tiers of certification was completed with the 2018-19 certification cycle. Our schools achieved the first tier (Bronze) during 2017-18 and were honored and celebrated at the FRS-NJ Awards Ceremony at NJSBA Workshop 2018. From that point we have three years until that certification expires, during which we can either renew certification, or seek the next level (Silver).

Beginning in 2018-19, our district and school FRS-NJ teams have conducted a gap analysis using the feedback data provided by the FRS-NJ awards committee, and we have identified areas to be included in our action planning at both the school and district level. Although more inclusive, representing results measured by indicators (https://www.frsnj.org/indicators) in all categories within all three themes, the following represent the top 5 indicators requiring improvement as identified by each school from the theme, Education and Classroom Practice.

FRS-NJ Bronze Certification Top Indicators Needing Improvement by School

Indicators	HES	KES	OES	SHES	VMS	Total
Student Choice	1	1	1	1	1	**5**
Student-Driven, Self-Directed	1	1	1	1	1	**5**
Ongoing Reflection and Refinement	1	1	1	1	1	**5**
Personal Learning Network	1	1			1	**3**
Professional Learning to Support Integrated Instructional Technology		1		1		**2**
Professional Learning Plan	1					**1**
Communicating and Celebrating 21st Century Learning			1			**1**
Computer Science			1			**1**
Blended Learning					1	**1**
Flexible Instruction Process				1		**1**

COVID-19 Pandemic Lessons Learned: Planning for the Delivery of Remote/Hybrid Education

Summary of Early-Day Events

When the New Jersey governor ordered mandatory school closures in mid-March, 2020, in response to the COVID-19 pandemic, it was part of the state's response, based on research and data, calling for social distancing. To accommodate this order and to ensure continuity of learning, the New Jersey Department of Education issued guidance allowing days of remote learning, under the auspices of home instruction, to count toward the state's requirement to provide 180 days of instruction. This action forced the district to quickly evaluate its capabilities from the standpoint of available instructional technology resources (hardware, software and connectivity), staff remote learning management capacity, anticipated professional development needs, coaching and instructional support. It also exposed some misconceptions about compliance rules and the need for standardization. The lessons learned and resulting remediation steps were an unexpected part of our strategic planning, however important going forward.

On March 16, 2020, the district executed its remote learning plan, which had been written and shared with staff during the previous week. Technology specialists worked with teachers during that time to coach them through the process of delivering remote instructions, refresh them in the use of Google Classroom (our learning management system for assignment workflow) as a follow-up from recent in-person training, provide them with a collection of online instructional resources. Unfortunately, the district missed an opportunity to distribute all elementary school 1:1 iPads for home use prior to our closure, and had to make later accommodations for device pick up by parents as needed. Middle school students already had their devices.

The content in the original plan determined that Remote Learning, "can include but is not limited to online learning, asynchronous learning, digital learning, blended learning, or old school paper and pencil instruction." Expectations for teachers in this plan include considerations concerning lesson plans, instructional hours, attendance and home-school communications. The plan did not set any expectation for teachers to conduct synchronous distance learning activities, although there is nothing in there that precludes it either.

Following the second week of remote learning, with the Stay at Home order extended further, the expectation for district staff to elevate efforts to engage with students via synchronous, video conference-based distance learning activities. This required coordination in the creation of schedules so that teachers can share the instructional time available. An examination of other options, such as "flex" planning days and the establishment of virtual "office hours" for individual and small group meetings. The challenge of determining how students would be assessed and graded came into play, especially after it was decided that the remainder of the school year would be conducted in remote learning mode. The year-end collection of student 1:1 iPads also became a logistical planning item.

During the early days of remote learning, with some measure of haste but with good intentions, the curriculum department rolled out the videoconferencing platform, Zoom, to all students and staff without consulting the technology department. Teachers and students were encouraged to create accounts, they were trained and encouraged to use this as an instructional tool. To counter, with heightening external pressure to expand remote instruction to include the use of videoconference meeting tools for those teachers willing, the technology department strongly recommended the use of Google Hangouts Meet (one of the Google Workspace Core Services) instead of Zoom for several important reasons.
The technology department cited concerns observed in the process related to the potential for regulatory compliance violations, appealed to maintain standardization (at a time when a variety of new distance learning resources were being offered up by vendors), and expressed concerns about students conducting non-supervised activities from their homes using non-approved apps on district-owned devices. Beyond all of this, efforts to protect students and staff from heightened cybersecurity risks became important as well, as was the need to shift data backup/recovery focus to cloud-based storage.

The Compliance Issue

With Zoom as an example, for a school district to properly use any online products or services being offered and made available to the school district, it must be in compliance with several government regulations, including the Children's Online Privacy and Protection Act (COPPA) and the Family Educational Rights and Privacy Act (FERPA), Children's Internet Protection Act (CIPA), and others – brief descriptions and links are available on the district's website (https://www.voorhees.k12.nj.us/Page/86560). District policies reflect these regulations and are in place to protect student information (BOE Policy 8330: Pupil Records), as well as to ensure student online safety and the proper use of district-owned devices and endorsed resources (BOE Policy 2361 - Student Internet Safety & Technology Acceptable Use Policy). Compliance with

COPPA amounts to obtaining parental permission for their minor students to use online services, but it must include an acknowledgement that this permission is being granted in agreement with service provider's Privacy Policy and stated position on Data Use Practices.

Devices provided to students by the district have video and voice recording capability, and to the extent that any audio or visual content containing any personally identifiable information about a student is recorded on the device owned by the district, or through the program used by the District, that recording would be considered an educational record under FERPA, and must be maintained in compliance with FERPA as any other student record. The requirement that staff treat any recording as a student record is a real one, and we had recommended that some sessions be recorded to benefit students who may not be able to participate live, or for the protection of the teacher (especially in a one-on-one instructional setting with no other adult present). The district's Technology/Media Consent Form does obtain parental consent for the student to "participate in a live or recorded broadcast" and may satisfy this condition. The status of parental consent on is item is visible to teachers in the student information system. Students without this consent may be advised to turn their camera off or dial-in by phone during participation. A new generic videoconferencing permission form was implemented, but it was not product specific and therefore the content did not seek parent acknowledgement of Zoom's privacy policy and how student information would be used.

The Need for Platform Standardization

If the district chose to do so, we could have followed the Administrator's Guide and rolled out Zoom in a way that met compliance standards. This would have involved an authorized district official agreeing to Terms and Conditions and then provisioning accounts for all users. We have a similar relationship with several other service providers like Google, Apple, Microsoft, Clever, etc., and perform many of the same required management tasks. All of these relationships are based on the vetting of company privacy policies (https://www.voorhees.k12.nj.us/Page/93989) by the district and obtaining the needed parental permission.

We've recognized in recent years, however, that there is a real need for standardization on the products and services we use. For example, examining the various options being employed by staff for learning management – digital assignment workflow, the potential for a single student to have to use multiple platforms just to submit his/her work to different teachers based on product preference had become a real issue. Teachers have been using eBackpack, Microsoft Teams, See Saw, Apple SchoolWork, and now Google Classroom for this purpose, and that's unfair (and somewhat confusing) to the student who can't use just one of these for all classes. As a solution to this issue, the standardization on Google Classroom beginning in 2020-21 has become a stated district goal. In this situation, when we have a standard application platform already in place (Google Workspace), it makes little sense to deviate from that plan and introduce something additional or in its place. This is especially true in the remote learning environment.

Furthermore, from the standpoint of technology management, support and training (especially with a small IT staff), the standardization of products and services is considered a best practice.

Just the seemingly easy task of adding that one new videoconferencing permission form onto the Genesis SIS Parent Portal took several hours, spawning 15-20 parent help desk requests posted every day in the next week for assistance in logging in and gaining access.

Provisioning user accounts (any platform) involves the extraction of student and staff data from Genesis and importing it into the third party service, then setting up automation so these file transfers occur nightly to accommodate account creation for newly registered students, and the removal of accounts for those who transfer out. We are already currently doing this for about 10 third-party systems, between data management applications and instructional platforms, and this comes with quite a bit of maintenance and troubleshooting responsibility. Considering the addition of another resource to this scenario should require an understanding of the total set of tasks involved in successful implementation in order to evaluate its worth.

Our technology specialists are responsible for providing support (both technical and instructional) to all staff using products and services for digital learning. In order to maximize the effectiveness of our human resources, streamlining the variety down into a smaller collection of those best practice tools and services adds value.

Working with our technicians, their efforts to resolve device connectivity issues, environmental problematic conditions, user errors, etc., are increased exponentially as the scope of products and services are increased. During remote learning, trying to help people with a combination of personally owned and district-owned devices makes things more complex, that's why the district has standardized on Apple iPads for tablets, Dell Latitude (laptops), and Dell OptiPlex (desktop PCs).

As coaches, their tasks include supporting staff in instructional planning and delivery strategies, as well as the preparation, delivery and follow-up support of professional development. This year our professional development focus has been on Google Workspace applications, with a focus on Google Classroom. Under the current remote learning challenges we are facing, the introduction of Google Hangouts Meet is a logical extension of the training recently concluded, and being able to show staff how to integrate Meet with Classroom and other products like Slides (with the Q&A interactive feature) makes quite a bit of sense. Having to train and support multiple videoconferencing products, including Zoom, Meet, and possibly Microsoft Teams (Skype for Business) would put an unnecessary strain on this group.

Cybersecurity Risk Mitigation

Taking advantage of current events is a common tactic that cybercriminals use to fuel their malicious activities. With the global pandemic of COVID-19 and an overwhelming desire for the most current information, it has been difficult for users to ensure they are clicking on reliable resources. Malicious activity has come through just about every channel: email, social media, text and phone messages, and misleading or malicious websites.

The range of current malicious activity attempting to exploit COVID-19 worldwide varies. A few common examples include:

- **Fake tests or cures**. Individuals and businesses have been selling or marketing fake "cures" or "test kits" for COVID-19. These cures and test kits are unreliable, at best, and the scammers are simply taking advantage of the current pandemic to re-label products intended for other purposes.

- **Illegitimate health organizations**. Cyber criminals posing as affiliates to the World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC), doctor's offices, and other health organizations will try to get someone to click on a link, visit a website, open an attachment that is infected with malware, or share sensitive information. This malicious activity might originate as a notice that one has been infected, one's COVID-19 test results came back, or as a news story about what is happening around the world.

- **Malicious websites.** Fake websites and applications that claim to share COVID-19 related information will actually install malware, steal your personal information, or cause other harm. In these instances, the websites and applications may claim to share news, testing results, or other resources. However, they are only seeking login credentials, bank account information, or a means to infect devices with malware.

- **Fraudulent charities**. There has been an uptick in websites seeking donations for illegitimate or non-existent charitable organizations. Fake charity and donation websites will try to take advantage of one's good will. Instead of donating the money to a good cause, these fake charities keep it for themselves.

The Department of Justice (DOJ) has sought to detect, investigate, and prosecute cyber threat actors associated with any wrongdoing related to COVID-19. Individually, most state law enforcement agencies and other judicial officials are also treating these malicious actions as a high priority.

It became important that our staff and students exercise extreme caution in handling any email with COVID-19-related subject lines, attachments, or hyperlinks in emails, online apps, and web searches, especially unsolicited ones. Additionally, we needed to make sure that all are wary of social media posts, text messages, or phone calls with similar messages.
We've had to reinforce the need for being vigilant, as cyber actors are very likely to adapt and evolve to the nation's situation and continue to use new methods to exploit COVID-19 worldwide. By sharing the four precautions below, we have been better able to protect ourselves from these threats:

1. Avoid clicking on links and attachments in unsolicited or unusual emails, text messages, and social media posts.
2. Only utilize trusted sources, such as government websites, for accurate and fact-based information pertaining to the pandemic situation.
3. NEVER give out personal information, including banking information, Social Security Number, or other personally identifiable information over the phone or email.
4. Always verify a charity's authenticity before making donation

Going Forward

The unanticipated closure of our public school buildings in favor of remote learning as a means for completing the 2019-20 school year had caused district officials to act in the formulation and implementation of new plans, many of which primarily involved the integration and use of technology products, services and support staff. With that, effective communications between the curriculum and operations offices with the technology department was a key to success. With the uncertainty of this new environment being clouded further by diverse offerings, ideas, opportunities and new risks, the district's interests were to be best served by keeping the decision-making process aligned with its governing values, principles and previously established practices. Through the implementation of remote learning, there were many lessons learned that have been incorporated into this digital learning plan:

- Revise the district's Remote Learning plan based on best practices, real world experiences and lessons learned, maintain it annually, having it ready for future emergency use if needed
- Ensure proper articulation and coordination of efforts between the leadership team and the technology department at all times, but especially during a crisis
- Understand established goals and resources available for digital learning, and implement them in the distance learning realm (little modification should be necessary)
- Standardize on resources used to avoid confusion and to facilitate efforts to provide training, instructional support and technical support
- Extend 1:1 iPad program down to the Preschool level, so all students and teachers have the same instructional resource
- Use multiple criteria when vetting new technology products and services for sudden implementation, as with any implementation:
    - Recognize the terms and conditions, as well as the privacy policy established by all digital learning vendors prior to approving those products and services for use
    - Maintain awareness of regulatory compliance issues related to district responsibility to ensure student privacy and safety
    - Certify that district permission forms for minor student use of digital learning tools meet regulatory compliance standards, e.g., COPPA, FERPA, CIPA, etc.
- Weigh the pros and cons for deviating from the use of established or standardized products, services and/or procedures:
    - Estimate the impact of product selection and implementation would have on the efforts of the technology staff

    - Recognize limitations on product feature controls off premises and anticipate/monitor student behavior in the unsupervised environment
- Promote and sustain good cyber hygiene, with situational awareness of effects based on changing societal conditions, in order to prevent or mitigate risk
- Adapt disaster recovery measures to ensure protection of data and other resources in the alternate educational environment
- Increase the district network's Internet bandwidth from 1 Gbps to 5 Gbps to accommodate anticipated network traffic generated by two or more videoconferencing endpoints in each of our 250 classrooms (inside the network) concurrently, as required in the Hybrid Instructional Model, along with all of the other traffic we generate on a usual basis.

Strategic Planning

Digital Star School Certification Program

We explored the criteria needed to move each school to the Future Ready Schools – NJ Silver certification level during the 2020-21 school year, and although we had incorporated those indicators into our planning process, during that time, the FRS-NJ program was transformed into the "Sustainable Jersey for Schools Digital Schools" program, offering financial and technical resources to participating schools.

As Digital Schools is contained within the larger Sustainable Jersey Schools certification, and because Voorhees Township School District has not pursued that certification, we are ineligible for Digital Star School recognition. We have, however, aligned our technology planning with the published "Actions" developed by this organization (based on the Future Ready Framework). These Actions include the following, which may be found to be addressed in various places throughout the district's Digital Learning Plan:

- **Authentic Application of Digital Learning Tools**
- **Blended and Remote Learning**
- **Commitment to Digital Learning**
- **Community Engagement**
- **Data Safety and Security**
- **Digital Citizenship**
- **Equity and Access to Digital Learning**
- **Hardware: Education Alignment and Sustainability**
- **Infrastructure**
- **Personalized Learning and Growing Independent Learners**
- **Professional Growth and Collaboration**

- **Professional Learning and Capacity Building**
- **Social Emotional Supports**
- **Support for Digital Teaching and Learning**

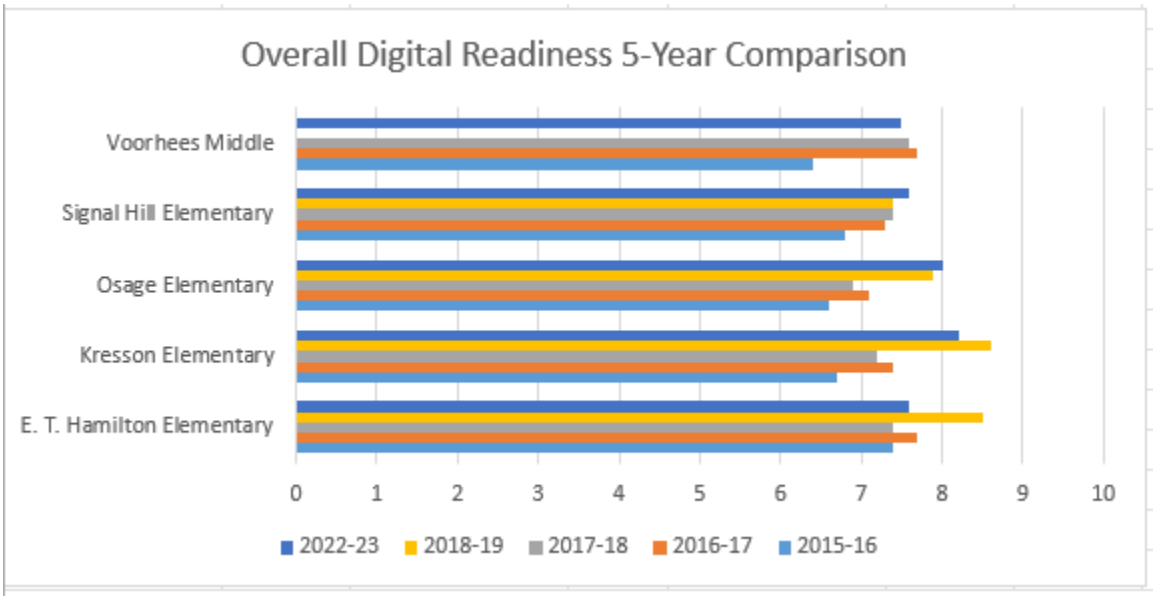
NJTRAx Digital Learning Survey Data – Gap Analysis

Each of our schools continues to use the NJTRAx Digital Learning tool to document their readiness and implementation ratings for digital learning, and these surveys are based on the Future Ready Framework to assist each school to be ready for digital learning. Stakeholders may gain insight into the school's digital learning readiness, its digital learning implementation, and the gaps the school currently has that must be closed if they are to use technology efficiently and effectively, in ways that increase our students' college and career readiness.

Grounded in a key set of indicators for effective implementation of digital learning, six surveys have been used every year since 2015-16 to collect data from six different stakeholder groups. Those six include: students, parents/guardians, teachers, school administrators, information technology coordinator, and educational technology coordinator. The data has been collected and a customized report for each school has been generated with its readiness ratings for digital learning and comparisons of perspectives across the survey respondent groups. Sponsored by the New Jersey Department of Education, this Digital Learning tool is a school version of the District Readiness Assessment (http://dashboard.futurereadyschools.org/) used at the White House Future Ready Summits (http://tech.ed.gov/futureready/). Stakeholder groups in each of our school communities have been completing the survey process every year since 2015-16, during the established March-June window, and although the full content of the district report and each school's report may be found posted on the district's website (http://www.voorhees.k12.nj.us/Page/82984).

The following illustrations provide multi-year comparative data related to Overall Digital Readiness and Overall Digital Implementation:

2022-23 NJTRAx Overall Digital Learning Readiness Growth Report



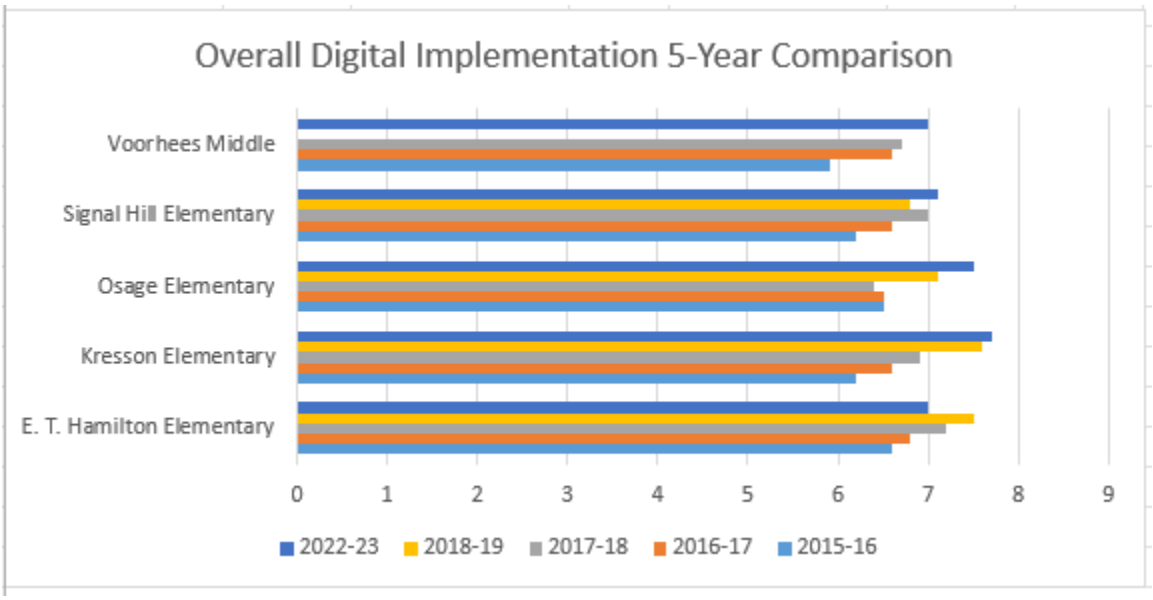
The Digital Learning Readiness Rating is scored on a continuum from Investigating, to Envisioning, Planning, and Staging for implementation. Each of the ratings is based on a scale of 0-10.

Investigating	0-3	Envisioning	4-5	Planning	6-7	Staging	8-10

NJTRAx Digital Learning Readiness Report Comparison Data						
	Overall Digital Readiness Ratings					
	2015-16	2016-17	2017-18	2018-19	2022-23	5-YR Growth
E. T. Hamilton Elementary	7.4	7.7	7.4	8.5	7.6	3%
Kresson Elementary	6.7	7.4	7.2	8.6	8.2	22%
Osage Elementary	6.6	7.1	6.9	7.9	8	21%
Signal Hill Elementary	6.8	7.3	7.4	7.4	7.6	12%
Voorhees Middle	6.4	7.7	7.6		7.5	17%

**2018-19 Voorhees Middle School Data Not Available*

2022-23 NJTRAx Overall Digital Learning Implementation Growth Report



A school's implementation rating represents the extent to which digital learning is implemented with students. The Digital Learning Implementation Rating is scored on a scale of 1-10 on a continuum from no/low implementation, to moderate, and then high implementation. Only 5 of the 8 gears are used to calculate the implementation score, since the other three gears do not directly impact students.

No/Low Implementation	0-3	Moderate Implementation	4-7	High Implementation	8-10

NJTRAx Digital Learning Readiness Report Comparison Data

	Overall Digital Implementation Ratings						
	2015-16	2016-17	2017-18	2018-19	2022-23	Growth	R-I Gap
E. T. Hamilton Elementary	6.6	6.8	7.2	7.5	7	6%	0.6
Kresson Elementary	6.2	6.6	6.9	7.6	7.7	24%	0.5
Osage Elementary	6.5	6.5	6.4	7.1	7.5	15%	0.5
Signal Hill Elementary	6.2	6.6	7	6.8	7.1	15%	0.5
Voorhees Middle	5.9	6.6	6.7		7	19%	0.5

**2018-19 Voorhees Middle School Data Not Available*

If our students are to graduate college and career ready in today's high tech, connected society, they must be competent digitally, proficient with technology, the Internet, 21st Century skill, and digital learning. The framework adopted by the NJDOE and us, according to the U.S. Department of Education, is designed to set out a roadmap to achieve that success and to commit districts to move as quickly as possible towards a shared vision of preparing students to thrive today and tomorrow. This can only be accomplished through a systemic approach to change. With student learning at the center, as we revise this "Technology for Digital Learning Plan 2023-26", we must continue to align each of the following eight (8) key categories to implement and sustain successful digital learning:

- **Curriculum, Instruction, and Assessment**
- **Use of Time**
- **Technology, Networks, and Hardware**
- **Data and Privacy**
- **Community Partnerships**
- **Professional Learning**
- **Budget and Resources**
- **Empowered, Innovative Leadership**

Each of these goes hand in hand, with all being equally important, interrelated, and interdependent. These categories are consistent with the Action Plan Target Areas established in the previous district technology plan, and survey data (a rating score with explanation) is available for inspection in each of the sub-components beneath each of the eight key categories.

In revising the previous digital learning plan, each school's Innovation Committee contributed a series of school-based goals, based on their ongoing NJTRAx Digital Learning Readiness survey results and Future Ready Schools – New Jersey Bronze Certification Gap Analysis data, to focus on more localized needs. These complement the overall set of district goals and tasks listed in the Action Plan portion of this document.

These surveys were administered again in 2022-23, but since the data measured showed very little growth between the most recent two survey administrations - largely due to the impact that the COVID-19 pandemic made on our educational priorities and processes for combating learning loss in the past two years – it is our intent to extend the established goals in each school's digital learning plan for another three years through the term of this plan's current revision.

For each school and at the district level we hope to see the Digital Learning Readiness Growth and the Digital Learning Implementation Growth scores increase, as we now settle back into our "normal" instructional process. We expect at the same time, due to a faster rate of growth on the implementation side, to see the gap size be reduced between Readiness and Implementation.

Artificial Intelligence (AI) and the Future of Teaching and Learning:
Insights and Recommendations

With the rapid emergence of artificial intelligence in all facets of society, we need to explore and plan for the opportunities and risks associated with AI implementation in our schools. The Department of Education's Office of Educational Technology (OET) released a new report that summarizes the opportunities and risks for AI in teaching, learning, research, and assessment based on public input (700+ educational technology stakeholders).

The report – titled "**Artificial Intelligence (AI) and the Future of Teaching and Learning: Insights and Recommendations**" – is the first ever out of a Federal office on this topic and is part of the Biden-Harris administration's ongoing effort to advance a cohesive and comprehensive approach to AI-related opportunities and risks.

The 71-page report addresses the clear need for sharing knowledge, engaging educators and communities, and refining technology plans and policies for AI use in education.

It recognizes AI as a rapidly advancing set of technologies that can enable new forms of interaction between educators and students, help educators address variability in learning, increase feedback loops, enhance student adaptivity, and support educators.

However, it also outlines risks associated with AI – including algorithmic bias – and the importance of trust, safety, and appropriate guardrails to protect educators and students.

The report recommends seven actions that the Education Department continue to collaborate and work on with states, institutions of higher education, school districts, and other partners:

- **Emphasize humans-in-the-loop**
- **Align AI models to a shared vision for education**
- **Design AI using modern learning principles**
- **Prioritize strengthening trust**
- **Inform and involve educators**
- **Focus R&D on addressing context and enhancing trust and safety**
- **Develop education-specific guidelines and guardrails**

As we move forward in our planning process, we have evaluated promising opportunities for AI in education as well as identified risks and incorporated the available educational technology guidance into our plan. We are thinking about AI in positive ways, including how our teachers can leverage the different tools to help make their everyday tasks easier, which in turn allows them to focus more on the students' classroom experience.

Current Environment

Instructional Technology Programs and Initiatives

Although the district has both an Information Technology Literacy Program and a Technology Education Curriculum that is not to say that it condones teaching about technology for technology's sake. The philosophy statement, educational technology goals, and the instructional computing program overview portions of the curriculum guide clearly indicate that Voorhees Township Schools view technology-based resources as tools for teaching and learning, rather than as objects of study. In the variety of ways in which the program is implemented, the objectives related to 21st century themes and traditional academic content are always primary in focus. The technology-related concepts and skills linked to each lesson are secondary. Students are actively engaged, motivating them to be successful in mastering content while developing 21st century skills.

The district decided to open the 2020-21 school year in a **Hybrid Instructional Model**. Our hybrid model includes two cohorts, A & B, which alternate between local and virtual (remote) attendance on opposite pairs of days at the beginning and end of each week, with all being virtual on Wednesdays. All teachers instruct from their classrooms in school, and the model for instruction has two components. It is a scenario where the teacher may leverage the new 75" Clear Touch panel recently installed in every classroom. It calls for the classroom teacher to have two concurrent Google Meet videoconferencing connections, one on their laptop and the other on the PC attached to the classroom interactive panel. We have provided each teacher with a laptop from a shared laptop cart, as the iPad each teacher already has creates lower quality video and is less reliable. The teacher's laptop (with camera and mic) can be placed on a desktop among the physically present students in the room facing the teacher - the teacher looks out a the local students, as well as into the camera so that the remote students are addressed in the same way as the local students. All remote students are in tile view on the 75" wall-mounted panel.

The second component involves the teacher's use of the PC connection in the Google Meet and presents that screen, which in this case is the 75" Clear Touch interactive panel, both local and remote students will see the same thing simultaneously. Although the PC connected to the interactive panel in this scenario has control of the presentation, using any content from the Internet, subscription-based content, video or interactive tools from the panel itself, the teacher's spoken word comes through via the secondary laptop connection.

It is also very important in the Hybrid Model for students in the classroom to be able to interact with the students that are at home as well as see the class lesson. This can be

achieved by our teachers via the classroom laptop that may be easily rotated away from the teacher and pointed at the students in the room. An alternative to this involves the addition of a web cam to be mounted on top of each Clear Touch board, connected to the attached PC. The audio and video come from the board and the teacher can use one Google Meet connection through the classroom PC. We have acquired several webcams per school to pilot this.

The tricky part involves new classroom management techniques that involves managing an interactive panel, a laptop and a desktop computer. As both computers will be in the same room and simultaneously participating in a Google Meet videoconference, only one device at a time may generate audio as to not create feedback. As the mic on the laptop will be the only source of classroom audio, it will need to remain unmuted when the teacher is speaking, whether using the panel or the laptop to present. The panel's onboard speakers must be disabled as when audio generated there is not intended to be part of instruction. If audio from the panel is required, e.g., showing a video, etc., the laptop's mic will need to be muted. These techniques have been built into our mandatory staff PD programs, and instructional coaching and support for teachers, students and parents is provided in an ongoing fashion by our technology specialists.

The hybrid instructional model was continued for students absent due to COVID-19, as needed, through the 2022-23 school year.

The **Information Technological Literacy** program represents important technology-related concepts and skills. In 2019, the New Jersey Department of Education adopted a Computer Science State Plan. It's first goal is to develop and adopt rigorous Computer Science standards in all grades, that provide a framework to equitable access to a coherent, robust K-12 Computer Science program for all students. In alignment with the NJDOE's 5-year revision cycle, New Jersey Student Learning Standard (NJSLS) 8.1 Computer Science (previously a strand in 2014 Standard 8.2), and 8.2 Design Thinking (new name with increased emphasis on design thinking) are to be adopted in 2020. The rationale is that engaging students in human-centered approaches to design, design thinking, and computational thinking through the study of computer science and technology serves to prepare students to ethically produce and critically consume technology.

The design of this version of the 2020 NJSLS – Computer Science and Design Thinking (NJSLS-CSDT) is intended to:

1. promote the development of curricula and learning experiences that reflect the vision and mission of computer science and design thinking;
2. foster greater coherence and appropriate progressions across grade bands;
3. prioritize the important ideas and core processes that are central to computing and have lasting value beyond the classroom; and

4. reflect the habits of mind central to technology that lead to post-secondary success.

Many of the remaining "Literacies" found in 2014 Standard 8.1 have been moved into 2020 NJSLS 9.4 Career Readiness, Life Literacies and Key Skills.

Going forward, Voorhees Township School District will be integrating these standards into our curriculum, implementing related professional learning for staff, build capacity, partnerships and awareness, as well as establish a data-driven decision-making approach to achieve success.

Technology-Infused Instruction relates to the inclusion of technology-related objectives within curriculum guides for academic content areas (e.g., word processing and desktop publishing objectives in the language arts, spreadsheet formulas in math, database manipulation and distance learning tools in the social studies, etc.). Those methodologies which provide students access to technology resources and engage them in activities that lead to the acquisition of concepts and skills, whether to reinforce or extend learning, conduct research, or promote problem solving ability, extend creativity, and foster the development of higher order thinking skills. Incorporating Information, Media and Technology skills from the Framework for 21st Century Learning in our activity planning will promote real-world learning and heighten global awareness. Delivering educational content using available technology tools by the teacher during instruction in the classroom also falls in this category.

The **Technology Education** program teaches students about the nature of technology and the human designed world. This is done through Technology Learning Activities (TLA) and principles of Science, Technology, Engineering and Mathematics (STEM), which allow the students to design and fabricate solutions in areas such as coding, robotics, structures, space, transportation, etc. The design challenges relate to real world situations. Students work cooperatively, using a design process to develop critical thinking skills as well as skills in material processing and safety. The 2020 NJSLS – Computer Science and Design Thinking (NJSLS-CSDT) will drive future modifications to this program, including game development, e-sports, digital design, and innovation lab.

These programs are delivered in a variety of ways in different environments, with all staff members assured access to the resources needed to facilitate appropriate technology integration.

1:1 iPad Initiative

The purpose of the 1:1 iPad initiative in grades 6-8 at the Voorhees Middle School, as well as in Grades PreK-5 in all four elementary schools, is to provide students and staff with tools and resources to create a modern learning environment that will prepare students to be successful in high school and ultimately to be college and career ready. We

recognize that technology integration should be seamless and allow students to create, think critically, problem solve, collaborate, and communicate in new, meaningful, and interesting ways. The iPad program helps teachers transform curriculum and teaching practices so they can prepare students to be successful in an ever-changing global economy. All policies, procedures, and information are documented and apply to all iPads used by Voorhees students and staff. Teachers may set additional requirements for use in their individual classrooms.

Bring Your Own Device (BYOD)

In an effort to further increase student contact with technology tools for classroom use, considering that many students have access to their own privately-owned devices that could be used in learning activities, we have initiated a limited "Bring Your Own Device (BYOD)" program. Teachers must approve, direct and supervise student use of their devices during instructional time, after receiving prior approval from an administrator, and may also prohibit that use for any given activity. They will not assist or provide technical assistance to students who are not able to properly operate their own devices. Designed activities may in no way provide an advantage for students who use privately-owned devices over those who do not. Students may not use the school's WiFi network or connect to a wired Ethernet port with their devices, and when or where connectivity is required, they must use the privately contracted data plan associated with their own device. They must also comply with established rules for use of school-owned technology resources when using their own devices, they may not use their devices to access school network equipment, and they may only use these devices if first granted permission by a parent or guardian submitting this form. This document reflects the Voorhees Township School District's Pupil Use of Privately-Owned Technology Policy (Policy 2363). The school district assumes no responsibility for the security or damage to any privately-owned device brought to school by a student.

Teaching & Learning with Computers (TLC)

In this classroom learning center approach, versus the computer lab environment, students either rotate through stations or work in cooperative learning groups using a combination of desktop computers, virtual desktop interface devices, wireless notebook computers, tablets or other handheld computing devices. This approach places technology into the initial instruction phase on a consistent, daily basis. The use of courseware, educational apps and online reference tools belong within this category.

Large Group (Interactive) Presentation

Using the computer/tablet, software, and special purpose peripheral devices in conjunction with a large screen LED flat panel display or projector provides the teacher with an "electronic chalkboard" for instructional delivery. Devices may be physically attached or wirelessly attached via a casting or mirroring device (e.g., Apple TV). This

mode of instruction is especially conducive to teaching and learning activities in a large group environment. Interactive components, such as an interactive whiteboard, panel or display, wireless tablet or tablet computer, wireless slate, or personal response system (PRS), have been added to our classrooms to facilitate interaction for both the teacher and students with the digital content and tools being used during large group instruction. Document cameras are used for the exploration of artifacts, product samples or printed media elements related to lesson content. All elementary school classrooms, and most classrooms in the middle school, had been equipped with a permanently mounted Clear Touch 75" Interactive Panel attached to a computer during the 2020-21 school year.

Distance Learning

There has been a structured "Distance Learning" program in the Voorhees Township School District since 1998, with the focus of our participation placed primarily on the development and implementation of learning activities involving two-way videoconferencing, including electronic field trips, classroom to classroom projects and off-site courses. "Distance Learning" actually includes many of the other technology initiatives that currently exist in various stages of implementation within the school district, providing our students, staff and community members with access to people and content not otherwise available via e-mail, social networking tools or virtual multiuser environments. The concept and related applications extend beyond the teaching-learning process to staff development delivery and the facilitation of staff productivity in the form of enhanced opportunities for communication and collaboration. These resources have emerged as the focus point when describing the development of 21st century skills for communications, media and technology literacy.

Enhancements to the communications infrastructure over the past several years have allowed the district to provide new online resources and services to the classroom, while improving on those already in place. Examples include, but are not limited to:

- High speed Internet access with content acceleration and filtering features, allowing for the interactive use of multimedia intensive content, including virtual and gaming environments, delivered via the web
- Classroom tools for the creation, manipulation and sharing of content, such as networked computers, educational courseware and applications, large screen viewing devices, interactive whiteboards, screen control software, screen casting, digital still and video cameras, scanners, mobile wireless notebook computers, etc.
- Web hosting services, providing a means for sharing district and school-based information with the community, and employing a decentralized approach as we continue to promote teacher participation in the creation and publishing of content. Formats include Blogs, Podcasts & Wikis in addition to traditional static pages, forms and surveys, and photo galleries or media libraries.

- Office 365 Education - a collection of services that allows us to collaborate and share schoolwork - services include Office Online (Word, PowerPoint, Excel, and OneNote), 1TB of OneDrive storage, Teams collaboration, and SharePoint sites. Teachers and students may install the full Office applications on up to 5 PCs or Macs, whether district-owned or personally owned.
- Google Workspace – a collection of apps and services that allows us to collaborate and share schoolwork – services include Google Workspace Educational Apps (Docs, Sheets, Slides, Meet/Hangouts, etc.), Drive for storage, Classroom for assignment workflow, Groups for collaboration, etc.
- Point-to-point or multipoint videoconferencing from any location in every school, with participants existing either within the district, outside, or both, allowing for content sharing and/or collaboration. Informal means, such as Skype (Teams), Google Meet, or Facetime, makes videoconferencing highly accessible, while products like Cisco telepresence endpoints, WebEx and Spark allow for tighter coordination of higher quality collaboration activities.
- Scheduled multicasts, i.e., "one to many" of broadcast television or satellite-based programming, recorded programming or live presentations
- On-Demand access to media clips and titles, beginning with the development of a centralized video library, to be shared via a computer, large screen viewing device, etc. Indexed metadata provides fast access to media segments, which can be included in custom playlists by the user. Subscription-based educational media content is available, as well as content developed by both teachers and students, and all media content is available from both school and from home. Media content, including eBooks, are also searchable using our online library catalog, and MARC record entries there are integrated tightly with one of the district's two video-on-demand systems.
- Document management system containing searchable lessons, presentations and a variety of other internal district documents containing information useful to the staff.
- Unified groupware applications providing an integrated e-mail messaging system with an internal centralized directory and Internet capabilities, resource scheduling, workflow management and document sharing capabilities

Although these new systems provide valuable opportunities, for each, there are underlying requirements that must be met in order to maximize the district's return on its investment. Part of the challenge lies in providing for the administration and maintenance of these added systems without increasing staff, but by reevaluating the roles of existing staff. Another piece lies in providing effective professional development, beginning with exposure to these resources and including more in-depth training opportunities, and the availability of both curriculum support and technical support vehicles that make these resources easy to use. The last component deals with the importance of administrative leadership regarding the establishment of policy, guidelines and in the setting of expectations for staff related to the use of electronic content and

communications resources, so we can do so safely, legally and in a way that ensures equity for all of our students.

During the 2019-20 COVID-19 pandemic school closure, there became a heightened need to roll many of our current technology initiatives up and place them under the umbrella of "Distance Learning," coordinating the efforts of those involved in each of the separate components so that these structures may function and evolve more efficiently. Many of the details of our experience may be found earlier in this document, in the **Historical Overview - Strategic Planning** section for **2020-23**, including lessons learned for goal setting in the evolution of our current remote leaning plan – School Health-Related Closure Preparedness Plan.

Assistive Technology

The effective integration of technology into curriculum-oriented efforts may require support and assistance. Assistive technology is incorporated into the instructional setting in such a way that education is facilitated without calling undue attention to the technology being used, or to its user. An assistive technology strategy bank is maintained by the district's Special Services Department to assist educators with examples of methods and ideas, and accommodations are made for students for whom assistive technology has been determined to be necessary. Each student's individualized education program is consistent with academic program, district and assistive technology guidelines. Appropriate staff training is provided for teachers responsible for students requiring adaptive resources, and in class support is offered by building technology specialists.

In addition, beginning during the 2022-23 school year, the district has committed to reviewing and modifying its published web content to make sure it is compliant with guidelines published in the Americans with Disabilities Act Section 508. ADA compliance here addresses content that contains elements that cause difficulty for visitors experiencing visual impairment, whether using screen reader technology or not. Elements such as contrast, color selection, font size, alternate text assigned to graphics, use of headers and structural hierarch, etc. are just a few. We have provided tools and training for our web content creators so that they are aware of our focus on ADA compliance, and so they know how to fix existing content and know what to do in future publications.

Information Technological Literacy (K-8)

Overview

The focus of the district's technological literacy program, at any level (K-8), is first and foremost on using technology to meet objectives related to various academic content areas while addressing 21st century themes. However, the program's function is also to develop student awareness related to computer science and design thinking, as well as to establish literacies and skills in interacting with data, computers and other tools of technology. Awareness of computer system components and functioning, the role of computers and technology in society, user responsibility, safety and ethical issues, as well as increasing proficiency in the operation and maintenance of hardware devices, various user interfaces, and software applications are among the goals of the program. It is necessary for students to develop concepts and skills related to technology-based tools before they can be expected to apply them in learning activities.

Both the academic and technology objectives for each lesson are co-developed by the classroom teachers and technology specialists in an ongoing fashion. As the program schedule is not being used to provide the classroom teacher with prep time, as is done with other special areas programs, the two teachers work in a team-teaching arrangement to implement each lesson toward the completion of a larger project.

Due to the open and flexible nature of the program, planned student activities are highly varied in their goals, instructional environments chosen, methodologies selected, and in the amount and structure of time allotted. And although instruction may be somewhat decentralized and activities may vary, the technology literacy knowledge and skills sets addressed are standardized by grade level.

In addition, in the departmentalized environment of the middle school, students attend technology courses as part of the related arts program. Whether the courses at a grade level are mandatory or elective, they are highly specialized in their focus. The advantage in this is that students may explore a specific application of technology in great detail, spending a full marking period on a more narrowly defined set of tasks in a given area.

Implementation

Building-level planning teams, organized by grade level, content or instructional teams, engage in a continual process that integrates curriculum development and student assessment with decisions about the tools and resources needed to support academic content and standards. This organizational structure fosters:

1. Integration of appropriate technology resources for both teaching and learning
2. Teacher proficiency in technology use
3. Student proficiency in technology use

4. School-based collaborative technology planning and instructional delivery
5. Maintenance of program integrity and continuity in a decentralized instructional approach
6. Student technological literacy assessment, progress management and reporting

At both the elementary & middle school level, the integration approach is used to provide connections between and among the content and learning experiences in the curriculum. Using a project-based, technology-infused format for each information technology instructional cycle, classroom teachers and building-level technology specialists jointly select a project that best meets the curriculum needs of the class during the time of year for which it is planned. This decision is made based on the needs identified in the academic content and technology literacy target areas, within the context of a selected 21st century theme. Either a posted, pre-created project is selected, or a new project is developed and then archived for use by others. Every student (Grades 3 – 8) is required to complete a minimum of one technology-infused project for each academic content area per year. Students in grades K-2 complete activities associated with curriculum-technology integration and the acquisition of age-appropriate technology skills, but no minimum requirement is established.

Teachers engage their students with digital learning projects that promote 21st Century skills, standards-based content knowledge and elements of deeper learning (e.g., critical thinking and decision-making, creativity and innovation, bi-directional communication, research and information literacy, and self-direction), and have relevance beyond the classroom walls. Strategies are shared for heightening expectations, personalizing learning experiences, leveraging technology, and making good use of assessment data in pursuit of better preparing students for college and career readiness. Teachers are asked to reflect on and evaluate existing instructional activities and technology projects, making revisions to enhance or transform them through the four stages of the SAMR (Substitution, Augmentation, Modification, Redefinition) Model, Bloom's Taxonomy, TPAK (Technological, Pedagogical, and Content Knowledge), and others, and these models have been interwoven in the fabric of our professional development programs.

The classroom teacher is responsible for delivering a significant portion of the instruction for any given project, where students apply their learning to solve complex, wicked problems that matter to them. The emphasis is on student choice: *student-driven, self-directed learning with ongoing reflection and refinement*. Regularly scheduled blocks of time are provided in the school's collaborative work center (formerly the computer lab), however most related activities take place in the classroom.

The technology specialist is responsible for assisting the classroom teacher in organizing the series of lessons required in the completion of each project. He/she provides the classroom teacher with any training and support needed to successfully deliver the instruction. The technology specialist must provide direct instruction in at least one phase

of the project, i.e., introduction of a new required technology skill, but may be required to assist during various portions as needed by the classroom teacher.

At the middle school, in addition to technology-infused curriculum projects, supplemental and advanced information technology literacy skills are targeted and developed primarily in the school's related arts program as a series of specialized courses provided at the sixth, seventh and eighth grade level. These computer applications-oriented courses are designed to introduce and reinforce concepts and skills identified at those levels. These courses are instructed by designated computer teachers.

Student technological literacy assessment is performed on an ongoing basis by the classroom teacher, with input and/or assistance by the building technology specialist when necessary. All grade level appropriate technological literacy standards are addressed during project/lesson planning throughout the school year, and they are implemented during instructional activities. Student proficiency is evaluated at the conclusion of each activity based on performance using a teacher developed rubric or other instrument, and proficiency is recorded via entries in our online student assessment recording instrument.

The Technology and Information Literacy Assessment Instrument is a locally developed database that was originally based on the NJTAP-IN Rubric, developed by the New Jersey Department of Education in 2007, with the current instrument reflecting the 2014 NJCCCS 8.1 for Educational Technology. Evaluative data is maintained for each individual student by the building technology specialist during the year. This data is entered into this recording tool, or previously entered scores are modified, at the conclusion of each project and scores are recalculated dynamically. This data follows each child from class to class and school to school, and it is available for reference purposes as our students progress through the years. Completed student projects and work samples are archived in a digital portfolio, for review, sharing and further evaluation, and each student's body of work is stored throughout his/her tenure in the school district. The level of technological proficiency is determined by the rating provided by this instrument, with modifications made following review of each student's portfolio and performance observations taken during the course of the year. Technological proficiency for all grade eight students is reported each year to the New Jersey Department of Education as required using the New Jersey Smart student data submission process.

Assessment of student work, with regard to mastery of concepts and skills as related to other academic content objectives, may be derived by teachers in this project-based environment as well.

Reporting of data related to student technological literacy proficiency may be made by authorized staff periodically, as requested, based on evaluative data maintained in each student's proficiency record. This data may be confirmed at any time in review of work

samples stored in each student's digital portfolio, which exists for review in both local and cloud-based storage platforms.

The building administrator is responsible for communicating and establishing a common set of expectations regarding these defined roles, facilitating collaborative planning between classroom teachers and technology specialists, and supervising and enforcing that responsibilities are being met by all parties.

Emerging Cloud based tools, including social media web sites, virtual learning environments, cloud-based services (storage, apps, digital content), and virtual private network access to school hosted resources, have significantly enhanced opportunities for students pursuing 21st century skills in school, just as they have for increasing productivity among professionals in the workplace. At the same time, these tools have reduced importance related to where and when some of these interactions may take place because information can be easily shared without the need for physical proximity or coordination of schedule among participants.

Because devices (and applications) used to connect us to these resources commonly exist in our schools, at the workplace, in our homes, or in our pockets or brief cases or backpacks, we are no longer limited to participation within the confines of the four walls of a classroom, or in a "one-size-fits-all" methodology. There is now greater flexibility for location, time and circumstances in which learning can take place.

Because of these tools, new learning environments can be: "24/7/365", "just-in-time", "personalized" "year-round", "life-long", "project-based", "blended/online", "virtual", "game-based", "flipped", "learner-driven", "on-demand", "assistive", and "technology-rich". There is some question as to whether, in the next 3-5 years, K-12 learning will take place in brick and mortar classrooms, 100% online, or in some form of hybrid environment. We are caught somewhere between the old "factory-model", "top-down", "compliance-driven" world of sanction and control, and a more "loosely governed", "self-directed" and "knowledge-based" educational system, trying to find our way.

In the pursuit of a mobile learning initiative, the objective is to provide the learner with the ability to assimilate learning anywhere and at any time using mobile technologies. Learning with portable technologies including but not limited to handheld computers, MP3 players, notebooks, mobile phones and tablets. Mobile learning focuses on the mobility of the learner, interacting with portable technologies, and learning that reflects a focus on how society and its institutions can accommodate and support an increasingly mobile population. The teacher may create "on the spot" and "in the field" learning material that predominately uses smart phones. Using mobile tools for creating learning aides and materials becomes an important part of informal learning, providing benefits both in and away from the confines of the classroom.

The current technology-infused projects taking place in our schools are pivotal to the district's efforts in making sure that there is equity (for all students, not just for those who have teachers that choose to actively engage them in technology-rich learning activities) making sure that every teacher provides every student with every opportunity to improve academic achievement in all content areas, address 21st Century themes, and to also meet the NJSLS 9.4 standards for Life Readiness and Key Skills. This NJ standard, adopted in 2020, includes more of the established "21st Century Skills" (information, media and communications literacy), as well as competencies in using Cloud based resources. With that, these projects must continue evolve to ensure compliance with the standards. Staff development opportunities have followed, and the trend to move more of this away from the computer lab and into the classrooms will continue. The provision of iPad tablets and laptops in our 1:1 initiative, as well as our BYOD policy, helps facilitate these goals.

The Voorhees Township School District continues to implement the NJSLS 9.4 Standards (formerly the 2014 NJCCC Standard 8.1 for instructional technology) and address the integration of 21st Century themes and skills required in all academic areas so that student learning outcomes evolve to be more global, authentic and have real world significance. In addition, we now are focusing on the other 2020 NJSLS – Computer Science and Design Thinking (NJSLS-CSDT) standards, with implementation beginning during the 2022-23 school year.

In an effort to ensure compliance with technology readiness specifications for the NJSLA (formerly PARCC) Assessment initiative as well as to support instructional technology goals, Voorhees Township School District will strive to refresh, repurpose and retire obsolete wired and wireless network infrastructure, as well as the devices and ancillary equipment needed for both online learning and test taking. Purchase of new wired and wireless devices will be consistent with learning and assessment goals.

Middle School (Grades 6-8) Related Arts Courses in Technology & STEM

Coding - 6th and 7th Grade

In Coding for the sixth and seventh grade, students are introduced to computer programming using a block coding platform. Students will be making many mini and major projects within Scratch, the block based coding platform. Students will design, code, and create different media throughout their time in this class. Using Scratch students will design and create their own animations and games using code. Students will edit and make their own sprites. They will begin to understand how to be more independent, and create more complex projects using Block Coding. They will also code and create their own Websites using HTML and CSS.

Gaming and Design - 6th & 7th Grade

Students will work both collaboratively and independently to use video games as a learning tool as well as using them as game creation software. They will follow the iterative design process to plan, prototype, playtest, evaluate and improve their products before publishing. In doing so, they will utilize the 4 C's: creativity, collaboration, critical thinking, and communication. The projects students create include "Research and Design A Museum," "Create a Mini-Golf Course," "Recreate a Historical Landmark," and more.

STEM - 6th & 7th Grade

Students will be introduced to the engineering and design process. Through several challenges, students will learn to understand how to identify problems, research possible solutions, develop a plan, execute the plan, and refine the product as needed. Students will identify problems that they experience or empathize with in the school, community, or world and then develop a solution to the problem. Students will also discuss the importance of sharing what was created with the public.

Digital Citizenship - 6th & 7th Grade

Digital Citizenship is a course designed to educate students on the ever-changing digital world, as well as provide practical experience regarding online safety. Additionally, students will explore ethical questions relating to technology, society and our choices as digital citizens. The curriculum covers a wide range of areas, so it appeals to a diverse group of students. Topics covered in Digital Citizenship classes include self-image, cyberbullying, digital footprint, communication, internet safety, security and creative credit.

Coding - 8th Grade

Students review what they learned in sixth or seventh grade, and review how computers read code. Students then are introduced into a web-based computer programming language called p5.js, which is a javascript library. Students are able to make their own coding artworks, animations, and games by coding in p5js. This curriculum covers code and the creation of inventions which further helped our lives. Students work with graphs, grids, math, and conditionals in order to create their own projects. Topics Include: Accessibility Centered Design, Inputs & Outputs, Technology & Code History, Variables, and more.

Digital Media - 8th Grade

Digital Media is a course designed to educate students on the ever-changing digital world, as well as to provide hands-on experience with software and equipment. The curriculum covers a wide range of areas, so it appeals to a diverse group of students. Topics covered in Digital Media classes include graphic design, animation, audio production and video production.

Gaming and Design - 8th Grade

8th graders in Gaming and Design learn about the principles of game design and coding logic while using Minecraft Education and Fortnite Creative as tools to design their own games. Students will experiment with different game design concepts and demonstrate creativity and innovation while applying the skills they have learned. At the end of the course, students brainstorm their own game idea and create a unique game using the game design software of their choice.

STEM - 8th Grade

Students continue to work through the Engineering Design Process to plan, prototype, and redesign creations that solve a specific problem. Students investigate the importance of empathy in engineering and build a project that caters directly to the needs of an individual. They also investigate the importance of engineering with respect to the environment and develop solutions to problems that promote sustainability and renewable energy.

Administrative and Productivity Initiatives

In the back end, systems for personnel management, accounting, payroll, purchasing, transportation, building maintenance, food services, etc. are all in place to facilitate some of the district's core operations, with the benefits of these resources and services being somewhat transparent to the general employee. In the front end, the district's standardization on Microsoft, Micro Focus, Apple and various web-based products helps most staff members in a more noticeable way on a daily basis.

The district professional staff's ability to more effectively collect, organize, and retrieve information, to communicate, and to manage time and other resources, is directly linked to its success as an educational organization. Reducing the time and effort spent while engaged in necessary administrative and clerical duties increases time available for the planning, implementation and evaluation of the overall instructional program. Other activities and initiatives currently being implemented toward these ends include:

Data Management and Interoperability

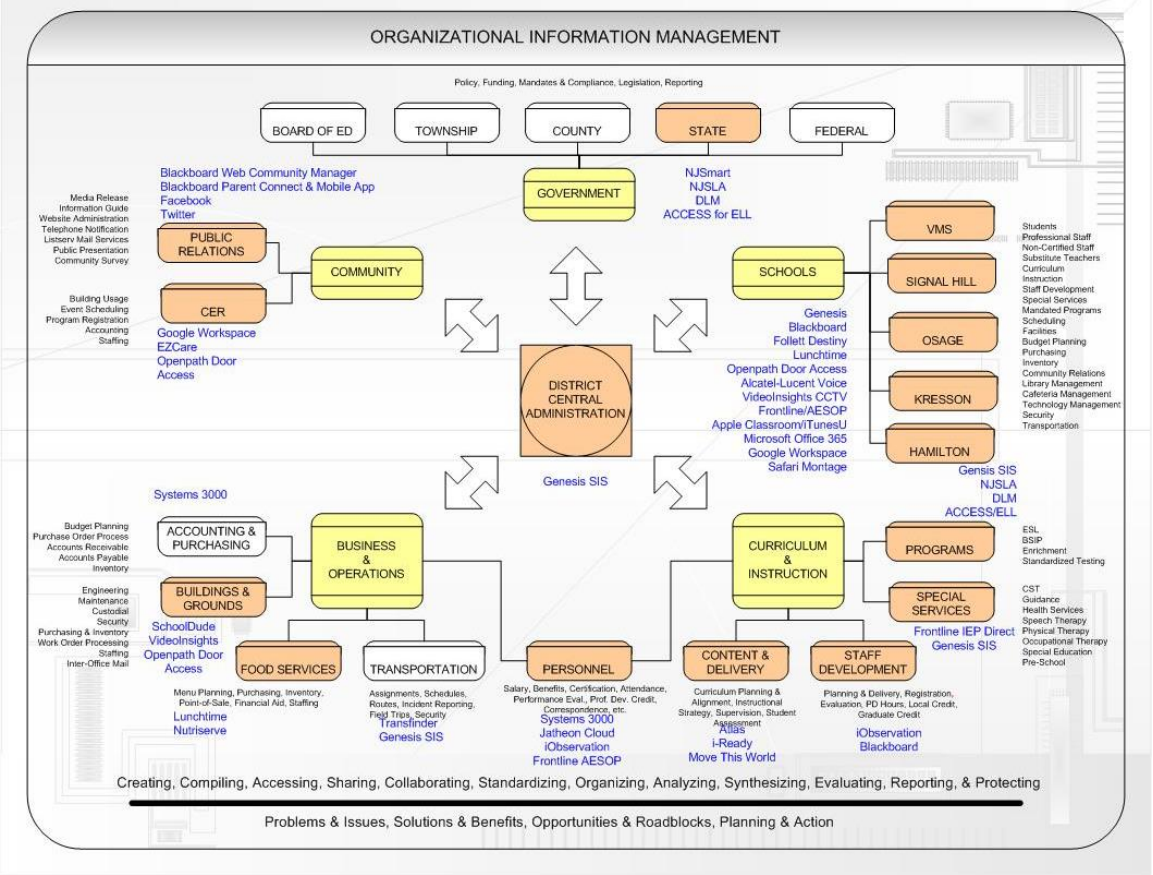
Practices in promoting data management standardization, data threat/risk management, digital records and communications retention, and New Jersey student data reporting requirements are being infused into the use of the applications available to our users. These are important for regulatory compliance, as well as for the protection of the information, and to facilitate our ability to share it between dissimilar systems.

Genesis, from Genesis Educational Services, Inc., is the district's key student information system. Data maintained here in our centralized database is supplied to other applications so that their data refreshes quickly, and to ease the burden of repetitive data entry. Student information regarding demographics, scheduling, grading & grade reporting, attendance, discipline, and other relevant data is maintained here. Although school-based users see this information only for students attending that school, district users have a consolidated view of all student information, depending on their assigned security privileges. Similarly, special education student data is managed by Frontline IEP (formerly IEP Direct), which is a hosted solution.

Student information from Genesis is passed back and forth between the Grading component in the main product and the teacher Gradebook module at specified "posting" times during each marking period. Exports required for New Jersey State Reporting, including NJSMART - a statewide comprehensive data warehouse, with related student, staff and course level data reporting, and a unique identification system for students (SIDs) and staff (SMIDs) - are made easily and cleanly as needed. Daily automatic customized file exports from the Genesis database populates or modifies the central account database for other data systems managed by different departments.

Currently, Genesis is integrated with the following applications, Follett Destiny (Library Management), Lunchtime (Food Services Accountability, Point of Sale & Vending), Frontline IEP - formerly IEP Direct (Special Education Case Management and IEP Generation), Apple School Manager (IDs, iTunes U & Apple Classroom), Microsoft School Data Sync (IDs and Microsoft Classroom), Google School Directory Sync (Google Workspacefor Education - digital content creation, communication, collaboration, and workflow management), Blackboard Parent Connect (Parent/Staff Notification System Auto dialer & Mobile App), and TrandFinder's RouteFinder Pro (transportation management), Clever (academic resource single sign-on and rostering application)

The district's business office migrated to a new system, Systems 3000, for purchasing, accounting, payroll, and personnel, with the underlying hardware platforms and operating systems now current and supportable.



Communication, Compliance and Resource Management

The Google Workspace for Education Plus allows use to bring our school community together with a suite of tools that enables better communication and collaboration; offers advanced security, analytics, and controls to safeguard against evolving digital threats; provides enhanced instrutional impact with advanced video communication, enriched class experiences, and tools to drive academic integrity; and it is a comprehensive solution incorporating advanced security and analytics, enhanced teaching and learning tools and more. Features include:

- Collaboration tools including Classroom, Docs, Sheets, Slides, Forms, and more
- Communication tools include Google Meet, Gmail, and Chat
- Data loss prevention for Gmail and Drive
- Compliance implementation for FERPA, COPPA and GDPR
- Security center to proactively prevent, detect, and remediate threats
- Advanced device and app management to perform audits and enforce security and app access rules

- Gmail log and Classroom log export for insights and analysis in BigQuery
- Meetings with up to 500 participants and live streams with up to 100,000 in-domain viewers using Google Meet
- Premium engagement features in Google Meet including interactive Q&As, polls, breakout rooms, and more
- Classroom add-ons to directly integrate external tools and content
- Unlimited Originality reports and the ability to check for peer matches
- Roster syncs between Classroom and our student information system, Genesis
- Personalized Cloud Search for the domain to make information accessible and easy to find
- Custom App construction with AppSheet (no coding required)

The Jatheon Cloud repository is the school district's organizational messaging archive for both email and social media (Facebook). It is a searchable local storage repository that is used for message retention compliance, and to respond to legal discovery, open records and audit requests. It can also be used in the enforcement of various district policies (e.g., sexual harassment, acceptable use of technology, etc.), if necessary, as determined by the Superintendent of Schools.

The school district's message retention "policy" is to save all (100%) messages for a period of three (3) years, based on state law, and so we have implemented a mandatory 3-year information life cycle for all messages that are created and/or received by all district Gmail users, regardless of the job title of its owner, without exception. Messages are automatically extracted from Gmail and "published" into the Jatheon Cloud repository at the time they enter any container beneath each user's Gmail home folder. All these messages, attachments, etc., are indexed and accessible for eDiscovery purposes right away. This marks the beginning of the 3-year retention period for any given message, and as each message has its individual date and time stamp, each has its own independent life cycle.

Each message is retained in the Jatheon Cloud repository for a period of three (3) years and is then automatically deleted at the time of expiration. No auditing user has rights to manually delete any messages in the repository. The owner of the archived messages can move copies back into the live Gmail system via a web-based interface. Any discarded, or trashed messages are moved into the Jatheon Cloud repository prior to deletion. All archived messages from the Gmail trash, like all other messages, are retained for three (3) years. Owners of these messages are not able to see or access them while in the trash repository. As any archived message is returned to the Gmail system by a user for any purpose, the message is treated as a new one, and all the rules established for retention and management of the message will again apply.

Remote Access and Collaboration

Access to information from the home or other remote locations is important for those who choose to work or communicate during the off-hours, while traveling or have the need to work remotely in a virtual setting. Accommodations are available to staff wishing to gain remote access to resources stored within the confines of the district's network, or "private cloud," while other resources are hosted by service providers whose "public cloud" is remotely accessible by design, and access is achieved in the same way whether from the office, home or from the road.

The Genesis Student Information System (including the embedded Teacher Gradebook Module), Follett Destiny Library Manager and Safari Montage are web-based database applications running on local servers, available to staff, parent and student users from home. These portals are also SSL encrypted for security purposes, so there is little concern about student data manipulation or transfers across the public Internet by users.

Google Workspace for Education platform yields many benefits to users, not only in providing new resources to facilitate digital learning (e.g., Docs, Sheets, Slides, etc.), but to provide a needed standardized digital workflow environment (Google Classroom) to support transactions concerning student work assignments and teacher feedback. The combination of iPad with Google Workspace resources replicates the digital learning environment that exists at Eastern Regional High School, so we are providing continuity. The district's extensive inventory of laptop and desktop computers may be leveraged too, as Google Workspace is device agnostic.

The district had previously committed to educational platforms provided by both Apple and Microsoft, and the implementation of Google Workspace should be considered an enhancement to both of those robust environments. Digital tools that Voorhees teachers have become comfortable using will continue to be available, with Google Workspace resources providing additional options for lesson design, collaboration and productivity. As with any new initiative, success in this endeavor will require both professional development opportunities, as well as follow-up coaching and support for staff.

Microsoft Office 365 Education Plus for Faculty and Students is a collection of products and services that allow staff to collaborate and share their work. Microsoft has made this available for free to teachers who are currently working at an academic institution. The service includes Office Online (Word, PowerPoint, Excel, and OneNote), 1TB of OneDrive storage, Yammer, and SharePoint sites. Our district is eligible to allow teachers and students to install the full Office applications on up to 5 PCs or Macs for free. They may also install the free apps on any iOS, Android or Windows mobile device and use them with a provided Microsoft account. Teachers share and co-edit schoolwork using Word, PowerPoint, Excel, and OneNote in real time— anywhere, any time, on any device. With 1 TB of OneDrive storage, staff can keep all work online for easy access. Working with

colleagues online, teachers see each other's changes in real time with Office Online and OneDrive. There is no need to email outdated versions back and forth. Teachers can type or handwrite notes, capture webpages, record audio/video, embed spreadsheets, and more with OneNote, available on all devices.

Micro Focus's Filr resides on a local server and allows Voorhees staff members to bring services together in a personalized portal for district work. Filr, Microsoft OneDrive and Google Drive are each a secure web portal, and also a desktop or mobile App, providing users with access to their data files from any location outside of the school environment. Microsoft Office 365 and Google Workspace platforms allow staff members to create virtual teams to collaborate with others and share information within the school district environment. The shared information of a virtual team is available to members of the team only, and is provided using the following tools available in different regions of the team's home page: Message Boards (discussion threads), Shared Files & Folders, Chat, and Common Links. Micro Focus's iPrint environment allows our mobile devices to print to our centralized printer/copier/multi-function device infrastructure, either locally or remotely.

Other internal resources that do not provide a web interface are accessible to users via a Virtual Private Network (VPN) tunnel provided by client software (Cisco Systems AnyConnect) installed on a remote computer and access privileges established on the district's network firewall appliance. Current VPN users mainly include employees working in food services, buildings and grounds, security, and IT management.

The district also works with several application service providers (ASPs), subscribing to resources maintained in server farms outside the school district. These "cloud" environments are secure portals to resources the district uses for specialized purposes, whether related to programs or operations, without having to bear the burden of costs associated with ownership of the resources themselves. As all of these services are web-based, they are also accessible from any location. Some of these include: iObservation (teacher and administrator observation/evaluation management system), Frontline IEP – Formerly IEP Direct (Special Ed IEP Management), SchoolDude Maintenance Direct (maintenance work order management and IT HelpDesk), ELAN Online (BOE policy archive), Frontline Absence and Substitute Management – Formerly AESOP (staff attendance management and substitute teacher procurement system), Blackboard Parent Connect (staff/parent notification system & mobile app), NJSMART Portal (interface for New Jersey student data warehouse and data mining/reporting tools), Lunchtime Parent Portal (customer payment management) and FinalSite Web Community Manager (district & school website content and feature management).

District Website

FinalSite Web Community Manager is an applications service provider (ASP) the district contracts with to host its website in an extremely reliable data center environment

managed by a highly trained and competent staff. The Web Community Manager platform provides the user interface and tools that are simple for our staff members to use as they publish and manage content related to their jobs. Resources for visual design, content authoring, home page & calendar management, editorial and workflow, user and role management, Microsoft Office support, Intranet and content viewing permissions, broadcast e-mail and content subscriptions, systems integration and personalization, and data collection tools such as forms, surveys and event registration are all available.

The Blackboard Web Community Manager package now provides Cloud based and Social Media tools, such as Blogs, PodCasts and Wiki's, which may require teacher content moderation and approval if used with students for educational purposes, or open when used by staff for professional purposes. Users can enable visitor comments, threaded discussions, ratings, and tags for any content element on a page and, any content element can be syndicated through an RSS feed. Integrated content search, web analytics and LDAP authentication are embedded as well.

Additional tools help to provide editors with the ability to construct templates and content elements that comply with the Americans with Disabilities Act (ADA) Section 508 guidelines. During content contribution by staff members, the Schoolwires Editor requires that all imagery inserted has an ALT attribute assigned. When creating templates, the Styler tool allows web designers to manufacture CSS layouts. These templates produce a positive ADA compliant user experience.

Security

Video surveillance and digital retrieval for security purposes is currently available in all district schools. A digital IP-based video network provides live camera feeds to a series of network digital video recorders (NDVR) responsible for streaming and recording the images and archiving them. Computer-based client software uses the IP protocol to access these controllers so that authorized users may view live or stored video for supervision, evidence or documentation purposes. Mobile device Apps are available as well, and in combination with VPN connectivity, these NDVR devices may be accessed from anywhere at any time. The Video Insight system is a series of appliances that communicate with a significantly high number of network-attached and IP-based dynamic high-resolution digital cameras in each building. Integration between this system, door entry and security features of VoIP phone services were pursued so that school administrators have the tools they need to better ensure the safety of the school population. Access to these resources is limited to authorized personnel, but these identified users may access live or archive surveillance resources from their PCs, tablets or smart phones either at work or from home. These network recorders and live camera feeds are accessible to local law enforcement.

In order to heighten building-level security and respond to emergency situations, video surveillance systems, perimeter door monitoring/access control security systems, strobe

signaling, wireless voice communications systems and inbound call logging systems have been introduced as part of the infrastructure.

A districtwide keyless door access solution was implemented during the 2023-24 school year. Aviglon Alta (formerly Openpath) is an adaptable corporate and enterprise access control solution, to create safer, more secure spaces with complete access control. This product line is built to scale for thousands of users across multiple locations and centralizes security management with robust cloud-based software and seamless integrations, all managed from a single pane of glass. Openpath Access, combines hardware with an app, enabling employees to enter the office using their smartphone. Unlike legacy systems, Openpath's software is cloud-based, meaning Access easily scales with your business and seamlessly integrates with platforms like G Suite and Azure AD. Openpath's patented SurePath Mobile technology ensures reliability and quick entry via Bluetooth, Wi-Fi and LTE. With encryption at every level and powerful, user-level permissions, Openpath Access is both more secure and more dynamic than traditional access control systems.

The Openpath Video Intercom Reader Pro combines a built-in high-resolution camera, intelligent intercom, and multi-technology reader into a slim and sleek form factor. Visitors use the intercom to initiate calls, communicate with assigned users, and are visually identified within the Openpath app. Automatically associate video footage with access events and visually monitor entries in the Openpath Control Center. The camera angle is adjustable during installation, ensuring optimal video footage. The platform integrates seamlessly with existing video security systems. The Video Intercom Reader Pro features built-in ACU capabilities and is backward compatible with legacy access control systems. Video streams from these devices are integrated into our video surveillance NDVRs for monitoring, storage and retrieval purposes.

Call Management with Voice-over-IP (VoIP)

An integrated telephone/voice messaging system is in place in each of our district facilities with telephone units installed in all classrooms, offices and work areas (some digital, others network attached for VoIP). The architecture is built on the Alcatel-Lucent OpenTouch Business Edition Suite, including OmniPCX Enterprise, which is a fully featured, enterprise grade, hybrid based corporate communications platform. The OmniPCX provides telephony infrastructure for both TDM and IP devices.

The two (2) OmniPCX Enterprise Communications Servers are based in the VMS data center, and they provide scalable, standards based open-distributed communications services, managing both traditional and IP configurations. Backup communications servers are installed in all other buildings. The media gateway architecture also allows traditional TDM or mixed IP-TDM configurations. The Communications Servers provide the controlling intelligence – it is a soft-switch platform, controlling IP Media Gateways which in turn facilitate local connectivity to the PSTN/ISDM, and IP phones through the

district's IP network. PSTN connectivity for voice utilizes PRI circuits (provided by Comcast), with analog PSTN trunks for backup.

The OmniVista 8770 Network Management Suite is a comprehensive set of applications that manages the voice network. It is designed to help the district with day-to-day tasks and assist with making strategic choices in the converged networks, due to reliability, assured availability, performance information, access security, configuration management and telecommunications cost tracking.

OpenTouch Multimedia service is a software-based voice messaging system providing voicemail and automated attendant capability. It provides users with message accessibility from any phone or from any IMAP mail client, web-based voice messaging and integration extensions for several popular enterprise e-mail environments. It also allows the owner of a mailbox to send messages to other mailbox users, be notified via an e-mail or an SMS text on the arrival of new voice messages,and stores all voicemails on its e-mail server. OpenTouch Voice Messaging also provides automated auto attendant (automatic switchboard) features that allow the voicemail system to act like an attendant: answer incoming calls, transfer them to a requested or pre-defined number or mailbox, using addressing by name or by number.

The Alcatel-Lucent Emergence Server (ENS) provides E911 services, allowing district officials to receive alerts in the event of a 911 call being placed. This includes call routing to the correct Public Safety Answering Point (PSAP), identification of the caller location at the PSAP level, on-site safety personnel call alerting and notification (e.g., phone, radio, PC desktop alters, e-mail, and SMS text message), voice recording of all calls, 911 calls activity web-based monitoring, full compliance with U.S. regulatory requirements.

State Data Reporting - NJ SMART

Major initiatives have been completed within the NJ SMART environment to meet expanding demands and expectations over recent years. Integrated state assessment data means that the district has regular access to assessment reports that allow easy monitoring and comparison of critical performance measures. With the implementation of SIDs, we are able to track students and their performance more effectively over time, even if they transfer in and out of the district. EDAnalyzer allows the district to access assessment data that is as current as the most recent data loaded into the NJ SMART data warehouse. District Reports is a robust tool that works with Local Data Mart and Official Snapshots. The District Reports tool offers us the opportunity to bring together data currently stored in a variety of locations into one integrated data warehouse at our discretion. This allows staff to access linked student data, generate user-friendly reports to analyze student data outside of Official reporting period timeframes, and make data informed decisions. These activities combine to provide the foundation for a more comprehensive system of data reporting and student performance management for New Jersey public schools, and we must continue to make sure our data submissions remain

clean, maintenance activities effective and our administrators capable to take full advantage of these resources in tracking student performance.

Staff Observation/Evaluation Process

Recently in New Jersey, comprehensive educator evaluation reform has been taken place through multi-year process in order to enhance teachers' professional practice, remove ineffective teachers, and provide a comparable framework for determining effectiveness. In August of 2012, the TEACHNJ Act went into effect, defining specific requirements for educator evaluations (as well as related professional development and tenure process changes) and full implementation of teacher and principal evaluations across the state is in effect. In relation to this legislation, the Department proposed regulations aimed at ensuring all Districts would fulfill specified capacity-building. The district has adopted and been using the iObservation product from Effective Educators, a robust management system for collecting observation evidence and reflections, performing data analysis and reporting on staff job performance. This system allows us to comply with TEACHNJ as it meets requirements for educator evaluation systems, other professional growth and development systems, and tenure decisions.

Online Standardized Assessment Administration

The Partnership for Assessment of Readiness for College and Careers (PARCC) is a consortium of 22 states plus the U.S. Virgin Islands working together to develop a common set of K-12 assessments in English and math anchored in what it takes to be ready for college and careers. The PARCC next-generation assessment system was first administered during the 2014-15 school year and hopes to provide students, educators, policymakers and the public with the tools needed to identify whether students — from grade 3 through high school — are on track for postsecondary success and, critically, where gaps may exist and how they can be addressed well before students enter college or the workforce. In 2016, PARCC was replaced in the state with the New Jersey Student Learning Assessment (NJSLA), implementing the same testing infrastructure as PARCC.

The move to online assessments poses to a distinctive set of challenges for school technology. The State Educational Technology Directors Association (SETDA) and Pearson have developed tools to help state education agencies work with schools and districts to ensure readiness when the online assessments are launched by the two consortia each year. This online tool gives schools a convenient way to capture and report on indicators of their technology readiness, and we need to make sure that our reporting is accurate, that we provide adequate infrastructure, and create online testing environments that meet our needs through the process.

Facilitating user account registrations, uploading personal needs profiles, performing updates reflecting continuous change, training staff, and installing test client software are some of the tasks related to the NJSLA assessment. Similar tasks and the creation of Dynamic Learning Maps are performed in relation to the DLM for the Special Services

Department, and ACCESS for ELL Pre-ID Submissions and data verification tasks are performed with ESL staff.

Data Governance Program

Increased demand for high quality education data and the resulting growth in the amount of individual student data collected and stored electronically by educational agencies has necessitated greater scrutiny of data management and protection practices. State and local educational agencies have expressed concerns about how to ensure data availability and quality while carefully preserving individual privacy. The district has implemented a plan to promote successful management of complex data systems by establishing a comprehensive data governance approach.

Establishing a comprehensive data governance program helps to ensure confidentiality, integrity, and availability of the district's data by reducing data security risks due to unauthorized access or misuse of data. Specifying standards, policies, procedures, and responsibilities regarding data ownership and data-related activities will help us to minimize any detrimental outcomes in an event of a data breach.

Program Goals

- Decision-making authority: Maintain a data governance committee, designating data stewards, and defining executive and managing roles and responsibilities at each level of authority (e.g., governance committee members, technology leaders, data stewards, etc.).
- Data security and risk management: Ensure the security of sensitive data and personally identifiable information (PII), by defending against the risks of unauthorized disclosure.
- Data inventorying and data content management: Maintain a complete up-to-date inventory of all records and data systems, including those used to store and process data, enabling the district to target its data security and privacy management efforts to appropriately protect sensitive data.
- Data records management and data access: Ensure compliance with security policies by clearly specifying all activities related to handling data by data stewards as well as users.
- Data quality: Identifying strategies for preventing, detecting, and correcting errors and misuses of data, maintaining high quality data.
- Data sharing and reporting: Ensure that data dissemination activities comply with federal, state, and local laws.

Program Expected Results

With the development and implementation of a comprehensive Data Governance Program for Voorhees Township School District, the following results are expected:

- Establishing organizational structure with different levels of data governance (e.g., executive, administrative, legal, etc.) will lead to successful data management.
- Establishing a comprehensive data security management plan with a system of checks and controls will help to mitigate the data security risks.
- Classification of all data elements by their sensitivity levels (e.g., by evaluating the risk for disclosure of PII; potential for adverse effects for the individual, should the data become compromised; and legal requirements to protect the data; etc.) will help to ensure that appropriate security efforts are applied to protect the data.
- Guidance about appropriate managerial and user data activities (who can access what data, for what purpose, when, and how) is essential to ensure proper handling of records throughout all stages of the data lifecycle, including acquiring, maintaining, using, and archiving or destroying both regular and secure data records.
- Establishing data quality standards, and regular monitoring and updating of data management strategies will help to ensure that the data are accurate, relevant, timely, and complete for the purposes they are intended to be used.
- Specifying procedures for the release or sharing of any data without written consent (e.g., in the form of individual records or aggregate reports) will promote adherence to the policies and regulations established by the district, including procedures for protecting PII when sharing with other agencies and disclosure avoidance procedures for protecting PII from disclosure in public reports, as well as regular stakeholder notification about their rights under federal, state and local laws governing data privacy.

Community Engagement

Since community members are stakeholders in the plan, the district wishes to ensure that we use our available technology resources in the best way in order to provide legitimate services to the community. We are focused on delivering programs and services fostering home-school communications, technology resource usage, information technology and computer applications training, and information sharing on curriculum and operations topics - including Internet safety, acceptable technology use and risk management.

The district makes a continual effort to enhance its Internet web presence by providing additional and more practical information categories, engage in more frequent information updates in order to keep content current, and use more active elements and media objects to make web pages more stimulating. Most staff members in the district are responsible for providing and maintaining some measure of content on the website as it applies to their job responsibilities. Most students in grades 3-8 have content posted on our website as well, but a secure login is required for viewing.

Voorhees Township School District web sites incorporate interactive features allowing parents and community members to use the Internet as a vehicle to provide a school or

the district with new information or feedback to questions posted in the interest of public relations. Online surveys and discussion forums, and program registration interfaces exist today, along with new capabilities for providing blogs, podcasts and photo galleries, and collaborative web pages (e.g., wikis). Parents and community members have the ability to subscribe to receive notifications when selected content changes in the form of an e-alert, have content pushed in the form of an RSS feed or podcast, or in the future, have content provided via a mobile app on a smart phone or tablet device. Conversely, community members can provide information in the completion of a survey, posting a comment in a blog, or by contributing to the development of a collaborative page.

Community members may also interact with district officials via established Facebook and Twitter social media accounts. Social media presence has been sized according to perceived needs, and the fact that we provide information in many other ways already. Although our community is provided with as-needed opportunity to provide input using these new channels, most of our dialog involves presentation. Having a district presence on Facebook or Twitter allow for heightened open discussion, but again, our resources to engage here are very limited.

The district website provides a library of rich navigation objects. Though some of these include dynamic JavaScript menus, the web hosting environment offers other ADA friendly navigation objects. These objects include a Site Map, Channel Section List, Section List and Page List, as well as a search tool for accessing any of the indexed content throughout defined areas or the entire web site based on keyword tags.

The district provides secure, web-based access to school or student information that is not for general public access. Parents and students may search the school library catalog in order to reserve published materials, and view online educational content via our integrated video-on-demand system, Safari Montage, or via several other subscription-based content databases. Parents registered to use the Genesis Parent Access portal may examine student report cards, current student marking period or interim grades, schedules, attendance data, and possibly at some point, view homework assignments, quiz and test grades as well as discipline infractions. An online food services portal is available for parents who wish to establish purchasing credit for their student(s) in the cafeteria, by making secure online deposits. Many of these resources are available (Apple Store or Google Play) in the form of a secure mobile app linked to these underlying database resources, with all information consolidated in one place.

As part of our “Going Green” initiative, beyond going paperless with our digital report cards, we now post a “Virtual Backpack” on our school web servers. Important notification, bulletins, calendars, etc. that would usually be sent home on paper copy are now archived in digital form for parent retrieval via the Internet. Weekly e-blasts with relevant information items and updates are sent out of our Public Information office, using our Blackboard notification system, with links to more in-depth information where available. Some of our school principals provide their own weekly school-based updates

using this same method. The District's mobile app is available, hosted by FinalSite , and it is integrated with our student information system, library and food services systems for easy access to information by parents and guardians.

The district strives to maximize teacher use and reliance on existing district e-mail, voice messaging and collaboration systems in enhancing communication between the home and school. The district publishes a comprehensive directory of teacher e-mail addresses and voice-mailboxes by school, maintains and provides teachers with current parent home and work e-mail addresses, use a digital voice messaging system to report emergency information or student absenteeism, grant parental permissions for access to resources via online registration, or report status information back to parents related to the resources described here. Parents and guardians may also subscribe to student classes in Google Classroom, the district's standardized assignment workflow management system, to receive notification about upcoming assignments, quizzes and tests.

The Genesis Parent Access portal resource allows parents of students having valid accounts to have secure access to student schedules, absentee data, report cards, and teacher grade books - view homework assignments (and obtain digital versions of materials distributed for use in the classroom) and grades on those assignments, as well as on quizzes and tests.

The Voorhees Township Community Education and Recreation (C.E.R.) adult education course offerings in information technology topics may be updated to provide skills-based training relevant to workplace readiness or retooling. Popular business software applications, technical skills in computer repair and networking, and website design concepts are among some examples.

C.E.R. adult education course offerings in general interest information technology topics may be enhanced to cover a broader scope and should be aligned with real world information technology issues, practical applications and required skills. Refined Internet search strategies, making secure online purchases, computer virus protection measures, and data management techniques may be included areas of study.

The district may consider providing community members with supervised open access to school technology resources, including computers, software, Internet access, WiFi on personal devices, etc., to conduct independent research or other personal business based on a published schedule. We may also allow community groups supervised access to school technology resources such as computers, projectors, Internet access, videoconferencing facilities, etc., in order to facilitate training sessions or other organizational presentations.

The district may consider providing elementary students with the ability to sign-out portable technology resources, such as notebook computers, iPads, digital media, etc., to

engage in educational activities at home, and/or provide remote (home) access to school network instructional resources such as networked educational software programs, online informational databases, digital media samples, etc. Middle school students may already bring home their school issued iPad device as part of our 1:1 initiative.

Students are permitted to use the Microsoft Office 365 for Education product licensing program. Office 365, offered at no cost to our students, is a cloud-based service that provides tools and resources to increase communication and collaboration. Students have a district provided email address, access to document storage, and access to document sharing sites. With that, Microsoft Office Pro Plus is offered to all students, allowing students to download Office programs, such as Word, PowerPoint, and Excel on up to five personal devices, free of charge. Students with iPads or other mobile devices can use the Office apps free of charge with their VTSD Office 365 account. With Google Workspace for Education resources available as well, we believe the tools we are now able to offer our students represents an important step to improve communication and collaboration as we meet our teaching and learning objectives. The tools will support the higher levels of collaboration that are required in today's work environments and will facilitate greater communication among students and staff, and our students' families benefit from having access to this product licensing at no cost.

The district will maintain its efforts to provide presentations to community groups on topics focusing on emerging new technologies, related societal issues and the consequential impact they have on education and child development. Sample topics may include Internet safety issues, interactive television, media copyright laws, online stock trading, setting up a home computer network, etc. These presentations may be offered in our buildings, recorded on the web, or via live streaming opportunities.

Facilities, Hardware Resources and Infrastructure

The means for implementing an evolving, innovative and highly aggressive educational technology program has stemmed primarily from the high level of commitment demonstrated by the Voorhees Township Board of Education and supportive community. Our facilities, equipment base and software resources stand not only as testimony to that commitment, but as an indicator of the high degree of confidence placed in the vision and judgment of the administrative and teaching staffs. At the time of this writing, the following technology environments exist throughout the school district and this description is provided from the network's edge (Internet) and inward:

Internet Connectivity

Voorhees Township School District has selected Comcast Business Communications, LLC as its Internet Service Provider, and has renewed a 60-month contract beginning at the start of the 2023-24 school year.

Services have been upgraded and include a dedicated 10 Gbps symmetrical fiber optic Internet connection from the Voorhees Middle School to Comcast's fiber optic backbone (Ethernet Dedicated Internet – EDI service), available for access from all locations in the extended campus network as defined below. This Internet connection is rate limited to 5 Gbps at an associated fixed price, with options available to increase bandwidth incrementally for additional cost. Comcast provides all required hardware up to the demarcation point, which is a 10GBASE-SR connection to a layer 2 Ethernet switch managed by Comcast. Provision of Internet services afforded to the school district beyond basic connectivity includes the procurement of a minimum of thirty (30) contiguous public IP host addresses, DNS services and domain name registration and maintenance services.

Comcast Business DDoS Mitigation Services enabled on our EDI connection with threat defense and mitigation functionality to respond to DDoS volumetric and flood attacks, such as UDP Floods, Web Floods, and DNS Application Floods. This service monitors specified IP addresses and proactively detects DDoS attack traffic, alerts the IT department that an attack is underway via email and SMS, and initiates mitigation to thwart the attacks. Comcast Security Operations worked closely with the district's IT staff to provision the service based on specific network information, preconfigured countermeasure options and ran acceptance tests to enable effective mitigation before the service was activated.

During the mitigation process, Comcast diverts the district's network traffic, including DDoS attack traffic directed at district servers or appliances, to scrubbing centers distributed across the U.S. to filter and remove malicious traffic matching specific attack vectors. Simultaneously, the clean traffic is forwarded to the district's network and servers through the use of a secure tunnel. The DDoS mitigation service is designed to maintain continued uptime of the district's Internet service during a DDoS attack.

An independent backup circuit has been implemented on a separate network for redundancy purposes as a best practice. The service includes a managed router that sits on premises between the LAN and the network and serves as an alternative gateway to the Internet if needed. The managed router includes a stateful firewall, customized to meet our specific network requirements.

Extended Campus Network

Comcast has constructed, installed and maintains ownership of the fiber optic cable network, with all associated materials, equipment and facilities, through which the Voorhees Township School District BOE is authorized to transmit its data and other

information in an exclusive manner. Comcast has charged the Voorhees Township School District one time for installation, and monthly over a sixty (60) month period as a service fee for access to and use of the described resources.

Comcast provides the Voorhees Township School District BOE with one (1) point-to-point, Gigabit Ethernet fiber optic connection for local area network to local area network (LAN-LAN) interconnection between Voorhees Middle School, 1000 Holly Oak Drive, Voorhees, NJ and each of the following five (5) locations (Ethernet Private Lind – EPL service): Voorhees Township School District Administration Building, 329 Route 73, Voorhees, NJ; E. T. Hamilton Elementary School, 23 Northgate Drive, Voorhees, NJ; Kresson Elementary School, 1 School Lane, Voorhees, NJ; Osage Elementary School, 112 Somerdale Road, Voorhees, NJ and Signal Hill Elementary School, 33 Signal Hill Drive, Voorhees, NJ.

Comcast has terminated the fiber connection of at each of five (5) Service Provider owned IEEE 802.3ah compatible 1000Base-SE GBICs to be located in Ethernet switching equipment at the Voorhees Middle School, and at a single Service Provider owned IEEE 802.3ah compatible 1000Base-SE GBIC in Ethernet switching equipment to be located in each of five remaining BOE locations. Handoffs in all six (6) locations will be RJ-45 copper (1000Base-TX), providing a full bps at an associated fixed price, with options available to increase bandwidth incrementally for additional cost.

Comcast is responsible for maintaining all interconnecting equipment up to and inclusive of the Demarcation Point, defined as the RJ-45 1000Base-TX port on Comcast's installed layer 2 Ethernet switch at each location. Comcast has provided the Voorhees Township School District BOE with written assurances that its property and equipment shall be kept in proper working order, free of defects which would cause interference of data transmissions, by performing routine periodic preventive maintenance services. Comcast shall provide written assurances that immediate response in problem resolution will be afforded the Voorhees Township School District, when necessary, and will continue uninterrupted until services are restored to proper functioning.

Plans to exercise the option to increase future Internet bandwidth, or in the extended campus network, are under consideration in compliance with standards and rationale provided in the Facilities Guide for Technology in New Jersey Schools.

Each school's local area network (LAN) maintains one or more wiring closets that house network communications equipment, primarily Cisco Systems Catalyst 9300 switches. The core switch in each building's main data center is physically connected to the Comcast-provided 1000Base-TX switch port, extending all links to a Cisco Catalyst 9500 core switch located at the Voorhees Middle School. These resources complete the collapsed backbone architecture of the extended campus network described above.

These inter-switched links between attached ports participate as members in uniquely defined "virtual" local area networks (VLANs). These have been created as logical divisions in the switching fabric of the Catalyst 9500 switch. Inter-VLAN routing is achieved using the Layer 3 capability in this Catalyst switch and allows the district to control the flow of communications traffic by implementing rules that either enable or disable the transmission of specific types of data across these links. In this environment, access to common network resources is provided while maintaining conditions that promote appropriate bandwidth management and quality of service (QoS) in data transmission.

Our Catalyst 2960-X series access switches reach "End-of-Support" early in the 2026-28 school year and the former Catalyst 4500 series core switches are at "End-of-Support" during the 2023-24 school year. These conditions require continued execution of plans for a phased in hardware refresh to be completed during the 2023-24 school year, focused on the Cisco Catalyst 9000 series switching portfolio, with a Catalyst 9500 switch in the core and 9300 access switches distributed throughout our building IDFs.

The Cisco Catalyst 9000 family of switches are the next generation of enterprise-class core and access switches built for security, Internet of Things (IoT), mobility, and multicloud. These switches form the foundational building block for Cisco Software Defined Access (SD-Access), the company's lead enterprise architecture. Cisco Catalyst 9300 switches are based on x86 CPU and the latest Cisco Unified Access Data Plane (UADP) ASIC, which support full programmability and serviceability as well as convergence between wired and wireless over a single platform. The switches provide superior high availability and unmatched security features for the next-generation enterprise network designs. Wired and wireless security and application visibility are natively built into the switches. Cisco Catalyst 9300 access switches are Wifi-6 (802.11ax) ready providing dense mGiG 1/2.5/5/10G copper connectivity with 25/40/100G fiber aggregation to enable connectivity for high speed wireless end points at scale and also supports full IEEE 802.3at Power over Ethernet Plus (PoE+), and Cisco Universal Power over Ethernet (Cisco UPOE+ and UPOE).

These switches support applications such as IP telephony, wireless, IoT, and video for a true borderless network These switches also provide segmentation options with new, innovative Cisco Locator/ID Separation Protocol (LISP)- and Virtual Extensible LAN (VXLAN)-based segmentation called campus fabric and Multiprotocol Label Switching (MPLS)-based segmentation. They also support all the foundational high-availability capabilities such as patching, Graceful Insertion and Removal (GIR), Non-Stop Forwarding/ Stateful Switchover (NSF/SSO), redundant platinum-rated power supplies, and fans.

Shared Centralized Resources

As each building's LAN resides in its own routed VLAN in the extended campus network, other special purpose VLANs exist as well. Just like Internet access, these non-building-specific VLANs contain other important resources (e.g., database servers, special-purpose appliances, etc.) shared by various groups of users, either from inside or outside of the network. Many of these resources are described in this plan under Administrative and Productivity Initiatives.

The edge of the district's extended campus network is secured via a Cisco 2140 Threat Detection next generation firewall, with its "outside" port connected to a Cisco ASR1001-X Router. District traffic is routed through a Comcast managed switch as the next hop to the Internet. Inbound traffic is highly restricted with various schemes in place to protect resources inside the network, and outbound traffic to Internet resources is restricted based on district policy. Other firewall-related resources offer varying degrees of security and performance enhancement and exist in "demilitarized zone" (DMZ) areas created with the firewall.

These centralized areas contain resources that contribute to network security, threat management and disaster recovery. Network appliances such as Cisco Firepower Threat Defense Management Console (real-time visibility, awareness and security automation technology), Cisco Identity Services Engine (Identity-based resource access, device posturing and user profiling services), and both the Unitrends Recovery-9230S (data backup, restore & archive services) are all examples.

The district's main data center and others are provided with climate control resources that keep these environments at the proper temperature and humidity level, preventing dust as well. In the case of the main data center, where most of the district's most critical resources are located, generator backup is provided to the both the installed uninterruptible power supplies feeding the communications equipment, as well as to the installed climate control unit. A device for monitoring environmental factors in the main data center, such as temperature, humidity and the presence of AC power, exists as well, and provides both e-mail and SMS alerts to key personnel in the case where an event causes a defined threshold to be crossed. Plans to extend generator backup, climate control and monitoring into all building data centers and wiring closet are underway, while plans to install fire suppression measures into each of these areas as well are being formulated.

Hyperconverged Infrastructure (HCI)

During 2016-17, multiple servers in our decentralized data center environment were scheduled for retirement. Instead of deploying new hardware in a one-for-one physical server replacement scenario, we opted to utilize the Cisco HX architecture to create a single centralized data center. In this scenario we have fewer management points and can control our environment much more effectively. This type of system also reduces our overall data center footprint while still increasing density and simplifying management.

Hyperconverged Infrastructure (HCI) is a next-generation technology which tightly couples the virtual controller layer with its own operating mesh. There are a number of similarities between HCI and converged infrastructure, however, the biggest difference comes in how these environments are managed. In HCI, the management layer – storage, for example – is controlled at the virtual layer. Specifically, HCI incorporates a virtual appliance which runs within the cluster. This *virtual controller* runs on each node within the cluster to ensure better failover capabilities, resiliency, and uptime.

Our Cisco HyperFlex system combines software-defined computing in the form of Cisco Unified Computing System (UCS) servers, software-defined storage with the new Cisco HyperFlex HX Data Platform Software (Springpath), and software-defined networking with Cisco UCS fabric that integrates with Cisco Application Centric Infrastructure (ACI).

The HyperFlex architecture integrates directly into our existing Cisco network environment supports VMware vSphere. As it stands now, we have five (5) HX240c nodes in the cluster. It comes comes with full network fabric integration, allowing us to create QoS policies and even manage vSwitch configurations that scale throughout the entire fabric interconnect architecture. The Cisco HX cluster spreads data across all nodes at the same time, first writing to the local SSD cache; from there, replicas are written to the remote SSD drives in parallel. All five HX nodes experienced memory, storage, HX platform software, and VMware upgrades during 2023-24 although reaching end-of-life status. System replacement is planned for 2024-25.

Wireless Local Area Network (WLAN) Resources

We have recently migrated away from our Cisco Unified Wireless Network (Cisco UWN) solution, which consisted of two (2) Cisco 5508 wireless LAN controllers (End-of-Life in 2023-24) and 270 associated 3600, 3700 and 3800 Series lightweight access points controlled by the operating system, all managed by several forms of the operating system user interfaces, as well as by our Cisco Prime Infrastructure appliance.

We have now implemented the Cisco Meraki wireless series, which is an enterprise-grade line of cloud-managed WLAN access points (APs) that leverage the award-winning Cisco Meraki cloud-managed architecture to provide powerful and intuitive centralized management, while eliminating the cost and complexity of traditional on-site wireless controllers. Meraki wireless APs are designed for challenging enterprise environments characterized by high-performance hardware, multiple radios, and advanced software features with proven scale and reliability (99.9 cloud SLA) to support the most demanding use cases.

The Meraki MR series is the world's first enterprise-grade line of cloud-managed WLAN access points. Designed for challenging enterprise environments, and our 300 MR-46 and MR-56 access points use advanced 802.11ac and 802.11n technologies, including MIMO,

beam forming, and channel bonding to deliver the throughput and reliable coverage required by demanding business applications.

The Meraki cloud-managed architecture allows users to seamlessly manage campus-wide Wi-Fi deployments and distributed multi-site networks with zero touch access point provisioning, network-wide visibility and control, self-learning RF optimization, seamless firmware updates, and more. With an intuitive browser-based user interface, Meraki WLAN configures in minutes without training or dedicated staff, offering scalability with templates. Adding new sites to a network takes minutes, not hours or days, and there's no need to train additional staff to monitor or manage the remote networks. Meraki devices are self-provisioning, enabling large campus and multi-site deployments without on-site IT. Learning from billions of touchpoints, AI and data-powered Meraki Health empowers customers with the data they need to stay informed and the context they need to make decisions.

Class-leading enterprise features Meraki cloud-managed wireless access points come equipped with industry-leading features that make them ideal for demanding enterprise deployments:

- Self-configuring plug-and-play deployment
- 802.11ax MU-MIMO with up to eight spatial streams built for voice and video
- Dedicated radio for security and RF optimization with integrated spectrum analysis (indoor models)
- Advanced security to protect against malware, ransomware, and C2 callbacks with Umbrella integration
- Integrated intrusion detection and prevention system (WIDS/WIPS)
- Intelligent firmware upgrades that minimize downtime
- AI/ML-powered analytics for root cause analysis and Wi-Fi troubleshooting
- Advanced application visibility with Cisco Network-Based Application Recognition (NBAR)
- Flexible group policy engine for creating and applying application-aware policies by network, device type, and end user
- Wi-Fi personal network (WPN) on any shared network (dorms, senior living, hotel rooms, etc.)
- IoT ready (ESL integration)
- Self-healing, zero-configuration mesh
- Role-based administration and automatic, scheduled firmware upgrades delivered over the web
- Email and text message alerts upon power loss, downtime, or configuration changes
- FIPS-140-2 compliant, IPv6 compatible, WFA-certified APs

Wired Local Area Network (LAN) Resources

Again, each building's LAN resides in its own routed VLAN in the extended campus network. Each building is segmented with some number between 10 and 25 VLANs, routed using the Layer 3 technology in the installed Cisco Catalyst switches. Each school's data center, until 2016, consisted of a server farm, providing file and print services, applications and database resources, DHCP/DNS, data backup, centralized PC desktop management and other services, however all of these have since been centralized in our main data center on the Cisco Hyperflex platform. The district is currently using Micro Focus's Open Enterprise Server for SUSE Linux and Microsoft Windows Server as primary operating platforms, e-Directory as the primary directory service, Micro Focus's ZENworks Configuration Management for desktop computer and user policy management, with Jamf Pro for similar management tasks with iPads.

There are about 2,000 personal computers of various specifications installed in six district buildings, all of which configured as network clients, and there are more than 3,000 Apple iPad devices as well. We've reduced our inventory of more than 370 shared printers to about 90 high yield printers and multifunction devices in recent years, in order to save costs on ink supplies and maintenance. Each school has a fiber optic cabling backbone with fiber, copper and wireless segments installed into computer labs, media centers, classrooms and offices. Multiple network architectures are currently being utilized inside each LAN including shared 300-900 Mbps wireless Ethernet, switched 10/100/1000 Mbps Ethernet, and switched 10 Gbps Ten Gigabit Ethernet.

Refreshed Catalyst 9000 series switches provide flexible uplinks (multigigabit, 1 Gbps, 10 Gbps, 25 Gbps, and 40 Gbps) and downlink (multigigabit, 5 Gbps, 2.5 Gbps, or 1 Gbps copper, or 1 Gbps fiber. Perpetual Cisco UPOE+, Cisco UPOE and PoE+) options.

Backbone Distribution System:

- Kresson Elementary, Signal Hill Elementary and Administration Building are configured in a star topology with a single main distribution feed (MDF)

- E.T. Hamilton Elementary, Osage Elementary and Voorhees Middle School each maintain two wiring closets with 12-strand multimode fiber (62.5/125 - plenum) run in conduit between MDF and IDF, terminated in multimode fiber optic ST patch panels mounted in 19" wiring racks in both locations. Additional IDF locations are necessary in the middle school due to its size.

Central Distribution System:

- Classrooms and Office Clusters – Connectivity provided via 6-strand multimode fiber (62.5/125 – plenum) between MDF or IDF and all classrooms and clusters of non-instructional spaces. All fiber optic cable terminated in multimode fiber

optic ST patch panels mounted in 19" wiring racks in MDF and IDF locations, and in 6-port ST wall-mount patch panels in drop locations.

- Computer Labs – Connectivity provided via Category 5 & 5e unshielded twisted pair (24 AWG - plenum) terminated in patch panels mounted in MDF and IDF wiring racks, and in surface mounted RJ-45 jacks in all school computer labs.

- Wireless LAN – 802.11a/n, 802.11b/g/n, and 802.11ac connectivity is provided in all buildings, via centrally managed, permanent end-to-end wireless coverage. Wifi-6 (802.11ax) is supported with refreshed Catalyst 9300 switches with planned Catalyst 9800 embedded Wireless Controller Software package enabled in 2021-22.

School Instructional Resources:

In each of the district schools, since 1989-90, there is a single collaborative workspace (formerly computer lab) to service its student population. These labs are used primarily to support the development of student information technology literacy skills, but since this program is delivered via activities within the context of other content areas, it simultaneously serves as a computer assisted instruction (CAI) resource, writing lab, research, technology projects, and online testing facility. All remaining time is available as additional open blocks, which may be signed out by teachers for use by an entire class. The scheduling of these workspaces is handled on a sign-in basis using the scheduling features of GroupWise/Google Workspace, described earlier in this section. There are, however, periods each day reserved as activity periods in which individuals may be permitted to sign in and use the resources to complete independent projects.

Middle school has 3 additional collaborative workspaces that are primarily used to service students as they participate in related arts S.T.E.M courses. Beyond Windows laptops, Macs and iPads, students participating in these S.T.E.M. related arts courses have access to various robotics resources, replicators & 3D printers, laser cutters, Rasberry Pi kits, miscellaneous "Maker" electronic kits, gaming-quality desktop PCs outfitted for both eSports competition and game design activities, and digital video production resources. These spaces evolved from computer labs previously used for computer applications instruction and computer aided design courses run by the technology education department up until the 2017-18 school year.

Expansion of our wired networks into the instructional classrooms began in 1990-91, an initiative that provided additional workstations for all special education, BSIP and ESL classes. This growth continued through 1995-96, involving the installation of approximately six or seven workstations and a printer in seventy-five percent of each school's regular classrooms at each grade level over the next three years. A 4:1 student to computer ratio was achieved in order to support our learning center-based Writing to Write and Teaching and Learning with Computers (TLC) projects, as well as to provide

network access to our BSIP and ESL populations. The scheduling of our Writing to Write and TLC programs has involved the development of teaching teams with rotating schedules and innovative student movement strategies.

By 1998-99, all classrooms in the district were equipped with technology resources, including at least one multimedia computer with Internet access. As the student to computer ratio was reduced in each classroom during this time period, as aging and obsolete hardware was removed, a greater emphasis was placed on using computer-based resources in large group instructional settings.

As a compliment learning center approach, a large group-oriented instructional approach necessitated the phased implementation of mounted large screen multimedia monitors. By the 2000-01 school year, all first through fifth grade classrooms had these monitors installed with access to wireless keyboards/pointing devices in order to provide teacher mobility during instruction. Each monitor was permanently connected to an Internet enabled multimedia computer (one of as many as five that may have existed in any given classroom), as well as a VCR device, for large group instructional activities. Other existing TV monitors were placed on mobile carts and equipped with VGA-NTSC composite video scan converters for similar use in other instructional environments.

Computers installed in 20 middle school classrooms constructed during the summer of 2003 were equipped with TV tuner components, 35 classrooms had mounted LCD projectors attached to a classroom computer for use with one of 30 mounted SMARTBoards or a wireless tablet PC for large group instruction activities, and 8 rooms had mounted 60” LED monitors.

In 2004-05, mobile wireless laptop labs were introduced in each school and available for shared access by teachers doing technology-infused activities in their classrooms. Wireless tablet computers were added in 2005-06 in order to facilitate interactive capability to large group instruction, while the deployment of mounted interactive whiteboard and LCD projectors began during that same time period. Wi-Fi infrastructure then consisted of independently operating classroom installed wireless access points, not managed by a centralized controller.

Between 2007 and 2010, an influx of wireless notebook computers accompanied the roll-out of end-to-end building wireless coverage, provided by the WLAN infrastructure, and the technology-infused projects mandated in every content area in grades 3-5. Additional access to PC resources in the classroom was afforded via the installation of virtual desktop interfaces (VDIs), extending the use of a single PC to three or four additional “virtual desktop” instances for use by students.

Between 2008 and 2011, large multimedia monitors were replaced by mounted LCD projectors, and a SMARTBoard (interactive whiteboard) was installed in every classroom for use by teachers in a variety of activities that emphasize the manipulation of data,

objects and media samples. These were connected to the teacher's computer in the classroom. Projectors, both with and without SMARTBoards, were also available for use in larger venues with more available seats. Apple TV devices are used as well in each classroom to wirelessly present content from an iPad.

Beginning in 2014-15, grades 6-8 at Voorhees Middle School participate in a 1:1 iPad initiative, where each student and staff member assigned an iPad. These devices are used both in school and at home. In 2016-17, grades 3-5 in all four elementary schools began participation in a 1:1 iPad initiative as well. The 1:1 iPad program was expanded down to grades 1 & 2 by 2020-21, and there are shareable iPads available on carts for kindergarten and preschool students. Elementary school iPads remain in school. The iPad program helps teachers transform curriculum and teaching practices so they can prepare students to be successful in an ever-changing global economy. All policies, procedures, and information are documented and apply to all iPads used by Voorhees students and staff. Teachers may set additional requirements for use in their individual classrooms.

All existing SMARTboard resources were retired at the conclusion of the 2019-20 school year, following 8-12 years of service. These were replaced by 75' 4K Clear Touch interactive panels, each wired to an existing classroom Windows desktop computer with HDMI for digital audio and video, and USB for touch interactivity. Each also has an embedded Chromebox supporting ease of use with the district's Google Workspace for Education environment.

Each school library continues to maintain 5-10 workstations for independent work, by teachers as well as students, whether using courseware or applications software, performing digital catalog searches, media circulation and for conducting online research using CD-ROM, DVD, local Video-on-Demand resources or online database subscription services, or for general purpose access desktop applications for productivity. The middle school's media center offers a Maker Space work area as well.

Between 5-12 mobile laptop carts continue to exist in each school and may be reserved for use by any teacher for use in any classroom. Mobile projectors, interactive displays, digital cameras, scanners, and videoconferencing units are also available for various purposes in any instructional environment within the schools.

At the time of the time of this writing, each Voorhees Township elementary school has an average of 80 desktop computers, 230 laptop computers, 510 iPads, 36 Chromebox units and 10 shared printers/MFDs in service for instructional, teacher productivity and administrative purposes. The Voorhees Middle School utilizes 135 desktop computers, 205 laptops, 1,160 iPad tablets, 83 Chromebox units, and 25 printers/MFDs.

Operations, Cyber Security Risk Management & Disaster Recovery Plans

Voorhees Township School District addresses data risk management and cybersecurity exposure by addressing safeguards from established security frameworks and best practices as they pertain to "people," "process" and "technology." "People" are the students, staff and community members who have access to our data and related resources and we focus on educating them on ways to practice good cyber hygiene (more about that in the Professional Development section). "Process" is addressed largely in our data governance planning efforts, as we plan ahead for how we should handle sensitive data (more about that in the Administrative section), as well as embedded within the plans listed below. "Technology" are those products and services that implement and contribute to threat intelligence in order to prevent and mitigate risk to our exposed data, the devices that provide access, and the users that have that access.

Several plans and resources are in place that collectively help to ensure business continuity in the event (or threat) of a cyber security incident or data breach. These procedures and guidelines support our efforts in achieving data/network security and disaster recovery. They include:

Operations
A standard operating procedures manual of daily procedures is continuously updated and maintained as the information technology environment changes. Detailed network diagrams, school floor plans and wiring diagrams that itemize the equipment residing in each building and its location exist, stating the function and how these resources are configured and utilized, are maintained by the Director of Technology. There is a clear outline of all servers, appliances, switches and technologies as well as detail related to the most critical components compiled in an operations manual, including policies and procedures.

Cyber Defense Gap Analysis & Security Plan
Each of the Critical Security Controls (CSC) is presented, providing all associated CSC Sub-Control identifiers with a thorough description, identified asset type, NIST Cybersecurity Framework (CSF) Category(s) and Core Security Function(s). Tools currently available to the district's IT department for addressing each Sub-Control are listed, and our process for meeting the required task(s) for each is described.

Cybersecurity Incident Response Plan
Oversight of the security of district information technology resources and information is entrusted to the Director of Technology by the Voorhees Township School District Board of Education. The Director of Technology serves in the role of IT Security Officer. The District Information Technology Department contends that evaluating and reporting cyber security incidents is important to ensure information security events and weaknesses associated with information systems are communicated in a manner that will allow timely corrective action to be taken.

New legislation has been enacted in this regard, and our plan will require revision once guidelines have been provided:

> New Jersey Governor, Phil Murphy signed legislation (S297/A493) on March 13, 2023, requiring State agencies and government contractors to report cybersecurity incidents to the New Jersey Office of Homeland Security and Preparedness within 72 hours of an incident. The bill requires the NJOHSP Director to establish and publish reporting guidelines to facilitate the timely and confidential submission of incident notifications by all public agencies in New Jersey, as well as government contractors, including municipalities, counties, kindergarten through 12th grade public schools, public colleges and universities and State law enforcement agencies among others. The purpose is to ensure the timely reporting of cybersecurity incidents that jeopardize the confidentiality, integrity or availability of systems and information. The new reporting requirement will take effect immediately.

Technology Disaster Recovery Plan

Technology staff will maintain a technology disaster recovery plan delineating the district's procedures for recovery from an unforeseen disaster or emergency. This plan will contain process level procedures for recovering critical technology platforms, telecommunications infrastructure and ensuring data security. Controls shall ensure that the district can recover from any damage to critical systems, data, or information within a reasonable period of time. Each school, department, or individual will be required to report any instances immediately to the Department of Technology for response to a system emergency or other occurrence that damages data or systems.

Data Security & Privacy Handbook - Data Use Security Plan

The purpose of this document is to set procedures and standards regarding data governance, data security and individual privacy protection for the Voorhees Township School District. It is the duty of the Department of Technology to create an environment within the district that maintains system security, data integrity and privacy by preventing unauthorized access to data and by preventing misuse of, damage to or loss of data. To create this document, the district has utilized Federal and State regulations as well as best practices and standards gathered from the U.S. Department of Education Privacy Technical Assistance Center (PTAC), the Information System Security Certification Consortium, the National Institute of Standards and Technology, the Consortium of School Networks (CoSN), and the New Jersey Department of Education.

Third Party Vendor Contractor Guide

This guide outlines the requirements that must be adhered to regarding contracts with third party

vendors. Department of Technology staff must implement and follow these requirements to ensure the security of student and district data when dealing with out-of-district companies or agencies.

Cisco Security Enterprise Agreement Product Guide

In 2018-19, the district committed to a 5-year multi-layered implementation of technology-based security products built on industry-leading threat intelligence resources. This guide provides a list of all Cisco Systems security technology products implemented in the network, including a statement of purpose, a summary functionality and instructions for operation. The products implemented in this security suite include Cisco Firepower 2140 Threat Defense Firewall, Firepower Management Console, Cisco Umbrella Cloud Security Platform and Threat Intelligence (Talos), Cisco Cloud E-Mail Security, Cisco Cloudlock, Cisco AMP for Endpoints (with iOS Clarity and AMP Connector), and Cisco Threat Response.

Cyber Insurance – Information Security & Privacy Liability

Cyber liability insurance may help to offset some of the anticipated costs incurred by the district in the case of a cyber security incident or data breach. Cyber liability insurance providers need to know that the district has secured its data, and we are required to provide our carrier with a great deal of the information listed in the above procedures concerning risk management practices on an annual basis. Costs associated with a cyber security incident or data breach may include:

- **Investigation** – After a breach, affected parties take several actions. Those actions include a detailed forensic analysis that facilitates identification of three things. The first is how the breach occurred. The second is the number of records affected. The third is how to prevent the breach from happening again. To achieve this, there must be involvement from a third-party security firm and coordination with law enforcement.

- **Business loss** – These are costs associated with data loss recovery, potential district closure, crisis management, and repairing reputation damage.

- **Privacy and notification** – Notifying affected people of a breach can be expensive. You must notify students, parents, staff, and the community. What's more, credit monitoring may be an extra cost. Those who suffered data loss or theft would typically receive this credit monitoring at no charge to themselves.

- **Lawsuits and fines** – The district will incur legal expenses (e.g., lawsuits, settlements) and possibly regulatory fines. The district may even have to pay cyber extortion in the case of ransomware.

Resources, Obsolescence & Energy Conservation

The cost to maintain the existing technology infrastructure, i.e., computers, cabling, network servers and communications devices, etc., at reasonably current standards has been prohibitive. Great strides have been made in this area in cycles since the 1989-90 school year, but this will always be a recurring issue due to the changing nature of technology and its impact on the local school budget. The cost to extend and replace available educational technology resources grows in proportion with the initiatives planned.

The need to sustain acceptable levels of available technical support, and maintain resources for disaster prevention and recovery, such as data backup systems, antivirus/anti-spyware/anti-spam solutions, intrusion prevention, web content filtering, Internet firewall protection, etc., continues to compete with our need to provide resources for instruction and productivity. However, these costs to protect and maintain end-user resources do contribute directly to extending the lifespan of the products we have.

With the evolution of technology placing high emphasis on multimedia, the convergence of voice, data and video, interoperability with Cloud based services, including virtual environments, these new resources require faster data throughput and guaranteed quality of service on the network. Therefore, upgrades and replacements for network communications devices, servers, workstation and operating systems are continuously under review. Factors such as “end-of-support” or “end-of-life” status for licensing and support on hardware or software products in production tend to accelerate the refresh process.

Traditionally the district has maintained a minimum student-computer ratio of 5:1 in each of its schools and has a 1:1 student-iPad ratio down to the 1st grade level. Regular maintenance, incremental upgrades, retrofits and repurposing of computer hardware have been and will continue to be performed to prolong usefulness. Each computer (or other technology resource) is taken out of service in and around its 5-year anniversary, and is either traded in, donated, sold, recycled or disposed in compliance with state and federal regulations. Every attempt is made to secure a replacement for each computer removed, whether the replacement is a desktop, notebook, tablet, interactive whiteboard, etc.

Electrical plant upgrades and climate control capabilities were recently performed within most of our network wiring closets as a means for extending the life of critical components. Electrical upgrades have been identified and continue to be performed incrementally in our classrooms. Most network communications devices and servers are now connected to “clean” and fault tolerant power sources that also must be maintained and periodically upgraded. This protection is provided by both uninterruptible and redundant power supply devices, with generator backup for the most critical resources.

Upgrades to the electrical plant have continued with new dedicated circuits being provided incrementally in classrooms.

Measures for reducing the district's technology carbon footprint are under consideration or being implemented. Consideration for moving toward virtualization in the data center, i.e., replacing several individual servers (hardware) with a single server that can run multiple virtual servers within the confines of a single physical server, would reduce energy consumption by reducing the quantity of hardware devices and lessen the need for climate control. Power management software is being considered for policy-based rules on power consumption based on user behaviors and schedules while using technology products, and the more rapid replacement of "old" computers with newer, more energy efficient models makes a difference as well.

Network resources are also used with other "green" initiatives within the district. Building Management Systems provide for the monitoring of building utility use and HVAC controls to be performed over the Internet via IP. The impact of motion-sensor activated interior building lighting, and power generation via installation of rooftop solar energy panels is monitored as well.

Although the district's information technology initiatives are moving forward in many areas, achieving a balance between adding new resources, refreshing old resources, and supporting the personal devices of students and staff simultaneously is our reality. These represent significant challenges that we must continue to find a way to meet year in and year out.

Software and Online Resources

In the implementation of technology-based solutions for meeting educational needs of students, the availability of quality educational courseware, applications such as creativity and reference software, and collaborative services is a key issue. Software, either as a curriculum supplement, extension or as a component within a complete curriculum package, is an important ingredient in successful curriculum-technology integration. The medium on which the software is delivered, as well as the design of the product, determines what types of hardware and connectivity are required for its implementation. Our definition for the term "software" extends to include the many subscription-based resources we use that service providers deliver over the Internet and device-specific "Apps" that provide content delivery, create simulations, facilitate gaming, or have value for productivity.

Software selection is done both centrally and at the building level. In any given year that another content area curriculum undergoes revision, the members of that curriculum committee, the district technology specialists, supervisors and directors play an active

role in reviewing, evaluating and recommending titles which best meet the objectives of that new curriculum. The curriculum guides developed in all areas often include resources for the correlation of objectives (aligned to NJ standards) to components within the selected resources which provide instruction, reinforcement or enrichment related to those specific areas. In addition, other funds are reserved in each budget year to purchase upgrades to existing software titles, new titles supporting other curricular areas where there are needs, administrative initiatives, and when necessary to facilitate the implementation of new pilot programs. Input toward decision-making is provided by technology specialists, librarians, and classroom teachers.

With respect to district curriculum needs, each building also has its own unique set of needs as well. Each building principal generally budgets to purchase software requested by staff members interested in engaging in a particular project that may be recommended to improve an area of weakness, provide enrichment or pursue 21st Century literacy.

Administrators and staff responsible for Special Education, select and purchase assistive technology resources that meet the needs prescribed in student individual education programs – some products may remediate, extend or reward learning in the classroom, while others are adaptive, allowing the child to use common tools in an alternative way in order to surmount or bypass a restriction imposed by the child's disability. The Basic Skills Instruction Program and English as a Second Language also plan for the purchase of software that meets the unique needs of these populations. Regardless of who purchases the software, once installed and made accessible it may be shared by all groups within the constraints of the licensing agreement.

In support of our 1:1 iPad initiative, the purchase of iPad Apps can be a bit complex, and using the district's purchase order procedure can only be achieved via Apple's App Store Volume Purchase Program (ASVPP) - now part of the Apple School Manager environment. The ASM environment require the creation and assignment of specified roles: 1) Administrator (one per district); 2) Content Manager (selects Apps and obtains product install codes using purchased vouchers and distributes them to end users for the installation of Apps. The Content Manager(s) Apple ID(s) cannot be associated with an iTunes account; they are used solely to access the ASVPP portal to redeem vouchers. Certain accounts are to be used by Content Managers for managing building-purchased apps for iPads to be used in regular education, while others were created for managing Apps for iPads to be used by special education – Content Manager accounts are linked to sources of funding maintained by building or by department; 3) End User(s) - Install apps on devices made available in the self- service feature of the Jamf Pro mobile device management system. Although any pre-existing iTunes account may be used to install apps, new Apple IDs are created by and belong to the school district via Apple School Manager (synchronized with our Genesis student information system) – the Managed Apple IDs are restricted from making purchases in the App Store.

Any staff member can purchase an Apple voucher using a purchase order, and they are available in increments of $100, $500, $1,000, & $5,000. Recommended practice is to purchase greater numbers of less expensive vouchers, rather than fewer more expensive vouchers, as individual vouchers cannot be shared among Program Facilitators. The voucher document arrives in an e-mail, received by the Content Manager for the building or for special education. The Content Manager uses the voucher to seed their account in the App Store Volume Purchasing Program (ASVPP) portal, purchases the desired Apps, then pushes the App installation to end user devices via a scoping process performed on the Jamf Pro MDM. Other roles in Apple School Manager include Site Manager, People Manager, Manager, Device Manager, Instructor, Staff and Student. These roles are for management of devices or classes, and rosters used by either iTunes U, the Apple Classroom or Schoolwork environments (via roster sync with Jamf Pro MDM).

Beginning in the 2016-17 school year, our district had subscribed to Microsoft Office 365 Education Plus for Faculty and Students. Office 365 Education is a collection of products and services that allow us to collaborate and share our work. Microsoft has made this available for free to teachers who are currently working at an academic institution and to students who are currently attending an academic institution. The service includes Office Online (Word, PowerPoint, Excel, and OneNote), 1TB of OneDrive storage, Yammer, and SharePoint sites. Our district is eligible to allow teachers and students to install the full Office applications on up to 5 PCs or Macs for free. We may also install the free apps on any iOS, Android or Windows mobile device and use them with our Microsoft accounts. We are using Microsoft School Data Sync to create and modify student and staff Microsoft accounts, and populate class rosters for use with Microsoft Classroom (workflow management and collaboration).

Most recently, It has been determined that the implementation of Google's Workspace for Education platform would yield benefits, not only in providing new resources to facilitate digital learning, but to provide a needed standardized digital workflow environment (Google Classroom) to support transactions concerning student work assignments and teacher feedback. The combination of iPad with Google Workspace resources replicates the digital learning environment that exists at Eastern Regional High School, so moving in that direction provides continuity.

As mentioned, the district had previously committed to educational platforms provided by both Apple and Microsoft, and the implementation of Google Workspace should be considered an add-on to both of those robust environments. Digital tools that Voorhees teachers have become comfortable using will continue to be available, with Google Workspace resources providing additional options for lesson design, collaboration and productivity. As with any new initiative, success in this endeavor requires both professional development opportunities, as well as follow-up coaching and support for staff.

Online educational courseware and tools are available as an add-on to textbook series the district has purchased, such as Pearson Realize and HMH Journeys. Other applications are available due to our purchase of hardware resources, such as Canvas, Snowflake, and EasiNote with Clear Touch interactive display panels. Still other subscription-based online courseware and tools are available via school or district direct purchases, such as i-Ready, Discovery Education, Worldbook Online, Study Island, Learning A-Z, etc. Many of these applications leverage single sign-on (SSO) and rostering services using Clever, an online application management resource that interfaces directly with the district's student information system.

Educational resources deliverable via the Internet have become increasingly prevalent in recent years with many publishers providing free access to media rich content, collaborative applications and activities that either replace or enhance products delivered in more traditional ways. The district's evolving communication infrastructure makes the use of these resources possible, our staff regularly explores, assesses and shares information with one another about these resources, and our professional development initiatives focus equally on the effective use and creation of Internet-based resources. The district's pursuit of Cloud based tools, including social networking applications, require not only increased Internet bandwidth and computing power, but heightened awareness about Internet safety, etiquette, ethics, and consequences for risk taking online.

Measures are taken to ensure that users of these online resources, both students and staff, may do so safely and with reduced risk of exposure to inappropriate content or contact. Acceptable Technology Use Policies (Appendix G), published usage guidelines and signed permission forms, parent & student information sessions on cyber safety, published links to online safety websites, consistent student supervision and related discussion, positioning of equipment in the room for monitoring purposes, etc., contribute in concert with some of the technology-oriented resources in place (e.g., Cisco Umbrella, Cloudlock and Cloud E-Mail Security) to collectively safeguard the online environment.

The district's communication infrastructure provides new opportunities for educational applications and content to be more accessible in the classroom, when needed at the point of instruction. Shared resources for live video-based programming, video-on demand, videoconferencing, blogging, collaborative document creation, online discussions, archived computer-based instructional presentations, and educational media-rich web content are some examples.

As teachers attempt to plan for technology integration as they prepare their lessons in each content area, part of their task is to determine which portion of which piece of software or online resource directly relates to meeting the objectives planned for the session. Part of the role of the technology specialist in each school is to serve as a resource during such planning, including the delivery strategy for the lesson, with

recommendations and support provided to the classroom teacher. Program administrators for curriculum, special education, BSIP and ESL are strong resources also. Most often, both academic curriculum content and information technology literacy skills standards are addressed concurrently. Technology Specialists demonstrate and provide teacher training whenever new software or online resource become available. Information and access to these resources are maintained and shared in the Educational Technology and e-Learning component of the district's website.

The Voorhees Township educational community recognizes that we need to help our students prepare for future citizenship, high school and college education, and other 21st century needs by engaging them online in real information-rich, technology-infused learning opportunities in the K-8 environment. We do struggle, however, with balancing the need to technologically empower students with our concerns regarding safety, respectful behavior, and the law. The question relates to whether the district should provide access to K-8 students in "open" social media environments as opposed to the "closed" environments we currently have that offer students a similar, but potentially saferexperience.

When looking at open (managed by the student – Facebook, Twitter, Instagram) versus closed (managed by school officials – Google Workspace, Office365) cloud-based tools, similar experiences may be realized in each type of environment with the proper planning. Closed environments can be opened to extend the reach based on the needs in a designed project, but open environments in school can only really be controlled with content filtering or good teacher supervision.

Students do work with online tools for collaboration, sharing and communication that have the look and feel of many of the popular "open" social media environments. As these are "closed" systems, not open to public access unless approved by school officials, there is another layer of protection between the students and rest of the world as they engage in designed activities. In a closed environment, district officials have pre-post content review, access and account management controls over the student during his/her activity. Connections needed with persons outside this realm can be opened in support of a designed activity and then closed again upon completion. The student works with similar tools, but does have a safety net.

Internet safety, technology acceptable use, and NJSL are addressed as students interact with each other, with teachers and with outside entities that have been vetted first. Along the way we've addressed students who have hacked into each other's web pages to deface or alter content, deleted files from the network storage owned by other students, communicated with each other in inappropriate ways, and made repeated attempts to access or post inappropriate content on the web. As this environment is a microcosm of the real world, the consequences for mistakes or misbehavior are significant and lessons are learned, but no one's safety is in jeopardy.

Educational Technology Staffing

The **Director of Educational Technology** is responsible for all technology-related programs and initiatives in the areas of instruction, teacher productivity and administration. Responsibility ranges from curriculum-technology integration planning and implementation to network/data center design, installation and technical support.

The district maintains the position of **Technology Specialist**, which is that of a resource person with responsibilities in many areas. Those employed in this capacity have had backgrounds as classroom teachers with varying degrees of technical experience. The role (and job description) for the Technology Specialist is continuously evolving, moving gradually away from that of a lead provider of instruction to curriculum resource person and technology integration facilitator. Technology Specialist responsibilities include information technology literacy instruction, academic curriculum-technology integration planning and implementation, teacher in-class technology support, staff development, building-level budgeting and purchasing, as well as maintenance and technical support for computer hardware, software, network administration, website and electronic messaging systems management, and administrative data systems support. One technology specialist is assigned to each elementary school, with one assigned to the middle school. The district also employs a K-8 technology specialist, whose home base is the Administration Building, who engages in similar activities on a district-wide basis in support of instructional and administrative initiatives:

The middle school also maintains four **S.T.E.A.M (Science, Technology, Engineering, Arts and Math)** teachers who are responsible for the implementation of the technology literacy and technology education curricula, respectively. This instruction is delivered via specialized courses as part of the related arts program:

The position of **Computer/Network Services Technician** was established and filled during the 1996-97 school year. This staff member is responsible for resolving technical problems related to mainly hardware, but also with applications and operating systems. This staff member is also responsible for the installation and maintenance of all network cabling systems.

The following is a list of existing technology services staff positions and responsibilities. Technical training is provided to staff as needed utilizing in-house, online and outside sources:

Director of Educational Technology (1)
Addresses all relevant administrative tasks, network infrastructure (voice/data/video communication systems), data center management (data storage, access and disaster recovery), security services (structure, policy implementation, etc.) design and

engineering, network resource procurement, implementation and top-level support, district technology staff development activities coordination, and the development of e-learning and curriculum-technology integration initiatives.

Information Systems & Database Manager (District Level) (1)
Maintain and develops student information database usage and procedures that will support accurate data compilation and reporting throughout the district in response to the data collection standards mandated by the State of New Jersey**.**

Technology Specialists (School Level) (5)
Student technology instruction & classroom instructional technology integration initiatives; LAN resource maintenance, school website administration, and resource management; school administrative & productivity technology support; staff development; and management of district-level initiatives. More time needs to be spent engaged in providing instructional delivery assistance to other teachers, curriculum/instructional planning & in class support, and ongoing staff development so that classroom teachers are better able to provide technology infused learning experiences on their own.

Technology Education Teachers (4)
Provide student technology education and S.T.E.A.M. course instruction as part of the Related Arts program at Voorhees Middle School.

Computer/Network Services Technician (3)
PC/iPad and equipment hardware maintenance and repair services, network cabling installation and maintenance services, general software installations and troubleshooting, new resource deployments and redistribution of existing equipment.

In order to better meet requirements in Action Plan item 3.3 Adequate and Responsive Support, the district has hired an additional computer/network service technician to provide additional in-building support services at the elementary schools and also engage in some of the resource and user management services currently performed by all technology specialists. Adding a third technician, and an online IT HelpDesk ticketing system, has allowed us to release technology specialists from some of their technical and user management responsibilities will enable them to focus on curriculum/instructional tasks, which is a primary responsibility. This enhancement will improve digital learning implementation in all schools while maintaining a high level of support and responsiveness to staff technology needs.

Staff Professional Development Program

Through a variety of training initiatives implemented over the past years the district staff continues to develop into a very computer- and technology-literate group. Periodically the district administers a survey that measures general staff technology knowledge and skills competency, as well as experience levels with using specific hardware and software resources. Items in the survey also address the ability of each staff member to resolve their own problems while using technology as well as their ability to assist others.

Staff levels of experience in using specific tools range from "beginner" to "intermediate" to "advanced" to "expert" in review of survey data, and we are able to isolate areas of need as we move forward, using these results as a benchmark for planning purposes. Our "Mini-Course" program in instructional technology was specifically designed to address these areas directly, however these skills may be developed using a series of small-scale workshops as well. Although some staff members have gone farther than others in terms of their level of interest and experiences in using the resources available, every staff member has participated to some degree in our overall program. As a whole, the staff is highly motivated, and recognizes the positive role technology can play when used as a tool for both instruction and productivity.

Gap analysis in the Future Ready Schools – NJ Bronze Certification process has yielded professional learning targets, as has school NJTRAx Digital Learning Readiness and Implementation feedback.

The revision of NJ technology standards - 2020 NJSLS Computer Science and Design Thinking (NJSLS-CSDT) - necessitates staff training as well. New Jersey Student Learning Standard (NJSLS) 8.1 Computer Science (previously a strand in 2014 Standard 8.2), and 8.2 Design Thinking (new name with increased emphasis on design thinking) are to be adopted in 2020. Teachers will need to be able to engage students in human-centered approaches to design, design thinking, and computational thinking through the study of computer science and technology in order to prepare students to ethically produce and critically consume technology.

Relevance of heightened district concerns about potential data breaches and ransomware attacks through social engineering has caused us to implement continual professional development supporting our holistic cybersecurity approach targeting "People," "Process," and "Technology." It is important for us to educate both students and staff in ways to reduce/avoid risk. Annual training is required for all staff members focused on some of the most prominent attack vectors, including but not limited to:

- password protection strategies
- e-mail security (phishing) - sender verification, web link domain inspection & attachment cautions

- information protection (compliance standards)
- mobile device security
- public Internet access
- file backup

This district has developed a very comprehensive and systematic approach to staff development with regard to the use of computers and technology. Largely in-house staff members deliver this program, however consultants are used on an as-needed basis. There is great flexibility in terms of the structure of these courses and the related compensation for participants, and it is the district's belief that this variety is the key to its success. The current program offerings consist of specific tracks or formats for staff members: on-site graduate courses, mandatory in-service training programs, courses and mini courses (for in-house credit) and miscellaneous workshops or self-study experiences. During the planning process we consider the nature of the specific role for that employee in the district and refer to the Role Specific Leadership Tasks**,** published by the TSSA Collaborative and adopted by the International Society for Technology Education (ISTE) as the National Educational Technology Standards for Teachers (NETS*T) and Administrators (NETS*A).

As the district's technology specialist are often used as trainers in the locally developed programs that we offer, opportunities to acquire the knowledge and skills are afforded to these staff members in a variety of ways. Formal "train-the-trainer" programs, specialized off-site or on-line courses, small-scale webinars, in-house technical training sessions, and collaborative work sessions are among the approaches used to make sure that our trainers have both the technical and instructional skills to be successful. New initiatives and ongoing collegial support is shared among these technology specialists via online tools in a professional learning community.

The school district continues building on its comprehensive staff development program by providing training opportunities to meet both the instructional and productivity needs of the professional staff (including administrators) and support staff. Online course evaluation forms, staff surveys, post-program briefings with participants and/or technology specialists, participant resource reservation requests, review of user help request documentation, etc., all contribute as checkpoints during planning.

Computer and technology staff development programs are being continuously planned and updated, working in concert with the district's Innovation Committee. This committee is formed each year to revise the district's annual professional development plan, including topics in digital learning, and supervised by the Assistant Superintendent for Curriculum and Instruction. Building technology specialists continues to serve on Innovation Committee with classroom teachers and other school representatives. Technology specialists continue to be directly responsible for coordinating all technology-oriented staff development described in this document.

As teachers are asked to reflect on and evaluate existing instructional activities and technology projects, making revisions to enhance or transform them through the four stages of the SAMR (Substitution, Augmentation, Modification, Redefinition) Model, Bloom's Taxonomy, TPAK (Technological, Pedagogical, and Content Knowledge), and others, these models have been interwoven in the fabric of our professional development programs.

Mandatory Training Programs

Each year, training is provided for a group of staff members during school hours in a small series of sessions provided over a period of multiple days. The focus varies from year to year based on needs identified at that time, and the targeted participants are selected based on relevance of content to job responsibilities. Although instructional technology topics have been the focus of these programs historically, in recent years the district has used this mode to focus on other areas of need.

In-house Mini-Course Program

Based on the in-house credit course program and designed to meet the needs of staff members that find it difficult to commit to a fifteen-hour instructional block concentrated in a single topic area, a scaled down "mini-course" program was initiated during the 2003-04 school year. Numerous mini courses (2.5 hours in duration) have been developed and offered over the years. These programs are placed on a district calendar, each with sessions scheduled throughout all district locations, with registration conducted online via the district's website. Successful completion of in class activities and an out-of-class assignment are requirements for the issuance of certificates that may be accumulated and "traded in" or redeemed for in-house credit.

Beginning in 2008-09, funds for these mini-course small scale professional development programs were diverted so that more in-service training programs could be held during the school day. Substitute teachers provide release time for the participants during the school day, rather than holding class with an instructor during the off-hours for in-house credit. These required programs focused on instructional strategies that meet the requirements in core academic content areas, but have technology infused instructional delivery components. This program design is more closely aligned with the district's philosophy and approach for the development of technology literacy skills in students, and in-service training sessions were held that focused on the development of instructional technology skills and technology-infused teaching strategies within the contexts of Literacy, Science Curriculum, Achievement Gap, Inclusion, Math Curriculum and Best Practices in Co-Teaching, and the development of 21st Century skills across the curricula, for students, teachers and administrators. The district implements an annual "Technology Boot Camp" for new staff members at the start of each year using this format, in an attempt to get them up to speed quickly with the resources needed for

management and productivity. The return of these mini-courses to after work hours or a summertime schedule has not been ruled out going forward.

Information Technology Workshops

As a portion of our staff population may not be interested or able, due to other commitments, to participate in courses for credit, a workshop format for staff in-service continues to be utilized. Independent workshops are developed to meet highly specific needs of certain populations, and their scope is narrowed, or concentrated, to meet a limited number of target objectives in a relatively short period of time. These workshops and user group sessions target secretaries and instructional associates, as well as professional staff members.

Workshops are developed as a result of staff interest or need, but also out of district initiatives or mandates. Workshops vary in length and are held during scheduled in-service days, during any regular school day, or before or after school hours in small doses (including faculty meetings), and are often organized by building. If the workshop is held during a regular school day, substitutes are provided for participants and may be shared among teachers through the course of a day. Staff members participating in workshops before or after the school day may be compensated via flexible scheduling.

Other staff development needs not addressed in workshops held locally are met by providing staff with time and funds to participate in workshops held out-of-district by external organizations. There have been many recent workshops available state-wide, sponsored by area colleges and universities, due to the emphasis now being placed on the "21st Century New Jersey Schools" initiative. This series of workshops have been developed in a multi-phase approach to inform teachers and administrators about the need to engage student's activities that develop skills in information, media and technology using Cloud based and social networking tools.

Self-Directed Professional Learning Opportunities

Professional development session formats have become more diverse, including opportunities such as blended learning (e.g., combination of online and classroom organization) and synchronous or asynchronous distance learning including EdCamps, social media (Twitter, YouTube, Edmodo, etc.) offerings, and sessions hosted via corporate partnerships and educational communities (Apple Distinguished Educator, Microsoft Educator Network, and Google Certified Educator). Professional learning communities can meet online, where there are no physical limits to discourage participation Forms of compensation available for participation should be diverse as well. Many staff members participate in a variety of these programs, and in some cases, receive a "digital badge" for completion.

Informal Learning Opportunities

In addition to these formal program formats, in the district's elementary schools, scheduled computer blocks are not release time for the classroom teacher. Therefore, these classroom teachers are provided with a continuous exposure to the types of activities and resources being utilized by the students. In both elementary and middle school, the completion of at least one technology project is required per year in every content area in every grade level (3-8); and since it is the classroom teacher's responsibility for implementing this with the support of the building technology specialist, the teachers learn with the students. Other demonstration lessons, modeling and coaching activities for both elementary and middle school teachers, and administrators, are arranged and facilitated by technology specialists, content area supervisors, and child study team learning consultants in the case of assistive technologies.

The district continues to identify staff training as the priority area in relation to all of the other components of the action plan. The tasks involved for all include the development, implementation and on-going evaluation of a comprehensive, appropriate and sequential staff development plan that meets the varying needs of the district staff. As these needs change or expand in scope, the staff development plan must remain flexible and provide room for growth.

The district's staff development goals focus not only on heightening the awareness of our staff members to the tools of new and emerging technologies and their usefulness in the educational environment, but to also enable them to understand and use these technologies appropriately at the level required to meet both instructional and productivity needs.

In-house Credit Courses

Since the Board's adoption of a policy allowing for in-house credit to be issued as compensation for participation in staff development activities (Spring, 1991), we had provided a variety of 15-hour/1-credit information technology courses, servicing a large portion of our interested staff members. As provided for in the approved teacher employment contract, in house credit is treated in the same way as is graduate credit with regard to movement on the salary guide. Courses of this kind were offered after regular school hours and/or during the summer months. Attendance, as well as the successful completion of in class activities and an out-of-class assignment are requirements for the issuance of credit.

Other opportunities exist for achieving credit by staff, including successful completion of certification requirements in an approved educational technology certification program, such as Google Certified Educator (Levels 1&2)

Onsite Graduate Courses

Since the fall of 1990, Voorhees Township Schools have been offering computer courses to our staff members, on site, for graduate credit. Both the Glassboro State College and Georgian Court College "Instructional Technology" certificate programs were 18-credit certificate programs with a focus on the integration of computer technology in education. The participants of these programs received three graduate credits for successful completion of each course and gained insights into how our computer resources might be effectively utilized in meeting instructional objectives. As several of our district staff members are employed as adjunct instructors by each college, the district was successful in customizing course objectives and content to reflect specific district needs and available resources. In the late 1990's there was a reduction of interest by district staff members to matriculate and commit to the rigors of graduate school, so the district elected to suspend this program and made plans to revisit it again in the future.

Ten years after offering its last graduate course in instructional technology, Voorhees Township Schools made a strong attempt to form a partnership with Richard Stockton College to provide their Master of Arts in Instructional Technology (MAIT) degree program onsite using district facilities and resources. The program, if implemented, would have established a local educational cohort designed to allow a group of students with common interests and goals to work towards attaining a graduate degree. The advantages of this cohort program would have included the convenience of using school district facilities as an off-campus location, enabling our busy, working staff members to further their education in spite of other demands on their time. Although we fell a bit short on meeting the enrollment requirements, we are still very much open to revisiting this or some other program going forward.

Maintenance, Service and Support

Voorhees Township School District has shifted its practices regarding the periodic maintenance and service of its equipment over the years, moving from complete dependency to self-sufficiency to a blended approach. We have found that the in-house performance of these necessary tasks is more cost-effective, improves incident response and problem resolution time, and allows for the performance of upgrades and other enhancement services. However, per-incident or contract-based support has value when local expertise is not adequate to meet the need, and relevant training wouldn't meet time sensitivity requirements.

Some maintenance contracts are renewed on an annual basis. These programs support users of those hardware and software products perceived by the school district to be of a "mission critical" nature. Key computer systems, communications equipment and data management applications are among those products included.

Voorhees Township School District has kept a trained computer technician as a full-time employee since 1994-95, adding a second following the initiation of our 1:1 iPad program during 2015-16. The district maintains a small inventory of critical replacement parts, as well as those most often requiring replacement. The district established several channels for ordering and obtaining replacement parts, providing overnight delivery to insure rapid hardware problem resolution. Apple Global Exchange and Cisco SMARTnet are examples.

Aside from the district's ability to provide a better level of service for users, other opportunities have been realized. With in-house technicians the district has been able to recycle and harvest parts from old equipment, perform preventive maintenance services and periodic upgrades, install, manage and maintain our network cabling structure, and perform services related to operating systems and applications.

Regarding network support, the district's current Director of Educational Technology is a certified network engineer and performs all network design, enhancement and support services. This applies to each of the school local area networks, Internet connectivity, as well as the management of all district web servers, e-mail servers, gateways, and special purpose appliances in the data center.

Each school employs a technology specialist. Although this position carries instructional responsibility, it has evolved through the years focusing more as a curriculum-integration and technology resource support person. This is possible largely due to the general staff's heightened comfort level in using technology resources unassisted. Release time is provided for Technology Specialists to support other staff members engaged in instructional or administrative technology-related activities. Other portions of this time are provided for troubleshooting and resource maintenance activities.

With the steady migration of technology resource into classrooms over recent years, the district had determined that a portion of the maintenance responsibility falls with the classroom teacher. Through professional growth plans and participation varied staff development opportunities, staff members are expected to maintain and enhance their skills level so that they are able to minimize down time in the classroom.

To combat various threats and intrusions, the district has installed and utilizes many layers of protection such as next generation firewalls, malware protection, spam and web content filtering software. While implementing these technologies is important, proactive monitoring of them is most critical. Infrastructure controls related to the maintenance and patching of operating systems, database management systems, telecommunication software, security software and utility software. The district is proactive in reviewing and applying critical security updates, hot fixes and patches. Software patches are installed and kept up to date per vendor specifications, and the process is automated in many instances.

Equipment inventory has increased exponentially since our first technician position was created in the mid-1990s, and tasks relevant in all phases of the extended technology life cycle are barely manageable due to the sheer volume of resources maintained by the district over time. Systems critical to school district operations have increasingly been added on to the district's network infrastructure over recent years, with no tolerance for downtime. Preventive maintenance measures, including policy-driven user restrictions, are taken to protect these resources and minimize the need for repair.

The district's growing inventory of available online learning environments, as well as providing access to these and local resources, requires management tasks associated with user accounts on multiple platforms. Although we try to automate some of these tasks, manual attention is still required in many cases.

In order to better meet requirements in **Action Plan item 3.3 Adequate and Responsive Support**, the district has hired an additional computer/network service technician to provide additional in-building support services at the elementary schools and also engage in some of the resource and user management services currently performed by all technology specialists. Adding a third technician, and an online IT HelpDesk ticketing system, has allowed us to release technology specialists from some of their technical and user management responsibilities will enable them to focus on curriculum/instructional tasks, which is a primary responsibility. This enhancement will improve digital learning implementation in all schools while maintaining a high level of support and responsiveness to staff technology needs.

Although we refresh our technology resources regularly and leverage various tools for management and support, after examining our published inventory, technology staffing and maintenance procedures, it is very apparent that there are limits to what we can

do. There is often a need for the roles of technology staff to overlap in efforts to achieve results in supporting end-users.

"Overlapping Roles" in task lists below refer to cross-over activities among Director of Technology, Technology Specialists (including Database Specialist), and Technicians:

Technology Specialist Primary Role

Digital Learning Coach

- **Curriculum/Instruction Planning & Support** – Technology infused lesson/project planning
- **Instructional Delivery Assistance** – Supports lead teacher in implementation of digital learning project/lesson/activity
- **Direct Student Instruction** – Modeling tasks/techniques required by project demands beyond the knowledge/skills base of the lead instructor
- **Professional Development** – Planning/Delivery of Continuous PD (School & District Goals)

Technology Specialist Ancillary Tasks

- **Online Testing** – Technology Coordination for NJSLA (PARCC), DLM, ELL
- **Future Ready NJ Certification** – Gap Analysis, Goal Setting, Initiative Planning/Execution, Evidence Gathering/Submission
- **Daily Problem Solving** – Situational resolution of miscellaneous issues that arise for all staff & students with expectation for immediate attention
- **Miscellaneous Building Duties** – Lunch & Recess, Substitute Coverage, Secretarial, Web Content Updates, Budget/Purchasing

Technician Oriented Tasks (Overlapping Roles)

- **Break/Fix** – PCs, Macs, iPads, Printers, Projectors, Copiers, Smartboards, Apple TV, WLAN, Cabling
- **Preventive Maintenance** - Windows/Java/Flash/Acrobat/Browser Updates, OS/Storage maintenance, BIOS/Drivers/Client Upgrades
- **Project** – PC Imaging, Cabling, Lifecycle Management (Replace, Relocate, Remove, Recycle Devices), Software Roll-Outs
- **Cyber Security (**devices**)** – Incident Response (Malware), Software Vulnerability Remediation

- **Server Tasks** – Patching, OS/Application Upgrades, System Migrations, VMware (Hyperflex) Infrastructure Management, Backup/Restore/DRS
- **Network Management** – VLAN segmentation, PoE, QoS, DNS, DHCP, Firewall, etc.
- **Help Desk** (Staff/Student/Parent) – Password resets, Q/A, How To, FAQ, etc.

Data Management Oriented Tasks (Overlapping Roles)

- **User Account Management** – eDirectory, GroupWise, Genesis (Student & Staff Records), NJSMART (SID, SMID), Office 365, FinalSite , Pearson, Misc. Online Learning Platforms, Misc. Year-End Cleanup/Rollover Activities, Misc. New Year Start Up Activities
- **Device Inventory Management** – iPad Deployment/Collection (Jamf/Destiny), PC Configuration Management (ZCM), App/Software Distribution (Jamf/ZCM), Lost iPad Location Tracking
- **Policy Management** – Resource Access/Restrictions, System Passwords (Staff/Parents), Web Content Filtering, Data Loss Prevention (e-mail, O365), Cyber Defense
- **Content Management** – Student Portfolios, Website Content, Student Photos (Genesis/Lunchtime/Destiny), Mass Scheduling Cleanup (Genesis)
- **Data Exchange Management** (Interoperability) – LDAP integration (FinalSite , GW, BYOD, Retain, Filr, etc.); SIS Integration (NJSMART, ASM, O365, eBackpack, Destiny, Lunchtime, Clever [iReady, etc.], HMH, etc.)
- **Data System Management** (On Prem) – Genesis, GW, GMS, Lunchtime, Destiny, ZCM, Jamf Pro, Retain, Filr, Safari Montage, etc.

Budget/Purchasing Management – E-rate Funding Process, General Supply Order, Building-Specific Purchases, Parent Group (PFO) Purchasing, Non-Public School Technology Funding, Partnerships, Grants, etc.

Assuming that staff expectations for adequate response to problems they encounter will remain high (as they should), then these are our options:

1. Add additional technical staff, e.g., technician and/or network systems specialist.

2. Restructure the focus of the position of “technology specialist” so that there is a higher level of technical responsibility in the daily job.

3. Set higher expectations for teachers to troubleshoot and find workarounds themselves for the problems they encounter.

4. Reduce our inventory of technology products and resources to a level that permits the existing staff to support products that remain with response time deemed adequate or acceptable.

The process for resolving a technical problem incident in the Voorhees Township School District may be found in Appendix G.

Technology Resource Acquisition

Budget constraints due to decreased funding have and will continue to impact all aspects of the educational technology program in a negative way. Although the district has been fortunate since the 1990s in its ability to maintain an average to high level of technology funding in its annual budgets, due to the cap and overall reductions in state educational funding in recent years, these amounts have declined.

Given the scope of the preceding issues as presented, the school district is confronted with a significant set of challenges. With new technologies rapidly emerging, the need to implement them in schools increasing, and the longevity of acquired technologies decreasing, creative solutions must be explored. The district recognizes the need to aggressively pursue alternative sources of both financial and human resources. Each year it seeks "E-rate" discounts on services from the Schools and Libraries Corporation and allocates a portion of state and federal funding in support of research-based technology infused instruction, technology literacy instruction, and staff development. Lease-purchase financing has been utilized to refresh groups of PCs, iPad devices, network security resources and communications equipment, as well as interactive display panels. Trade-in value is leveraged whenever possible while replacing equipment.

Recently the district had been able to take advantage of the CARES Act Education Stabilization Fund. On March 27, 2020, President Trump signed the Coronavirus Aid, Relief, and Economic Security (CARES) Act. Among its many provisions, the Act includes specific funding sources for Local Education Agencies. Specifically, Section 18003 of the CARES Act establishes the Elementary Secondary School Emergency Relief Fund (ESSERF).

The core purpose of the Elementary and Secondary school Emergency Relief Fund is to provide direct money to school districts and provide funding to support areas impacted by the disruption and closure of schools from COVID-19. The CARES Act ESSER funding is a one-time appropriation from the U.S. Department of Education (USDE). NJ DOE strongly recommended that nonrecurring funding not be used for recurring expenditures.

Per the legislation, among other things, the district may (and has) use the funds for the purchase of educational technology (including hardware, software, and connectivity) for

students who are served by the local educational agency that aids in regular and substantive educational interaction between students and their classroom instructors, including low-income students and students with disabilities, which may include assistive technology or adaptive equipment.

In the past, each school attained products from IBM, including the Writing to Write language arts curriculum resources and the NetVista Internet client and server products, free of charge in return for participation in special projects. Cisco Systems had also provided the district with extended discounts on network communications equipment needed to retrofit the infrastructure. Micro Focus, Inc. continues to provide significant discounts on their server operating systems, e-Directory, GroupWise, and ZENWorks products used by the district as platforms for computer networking, electronic messaging and desktop management systems. Microsoft provides Microsoft Office 365 Education Plus for Faculty and Students at no cost.

Schools have separately acquired private donations of equipment from individuals and have been fortunate to have local parent/faculty organizations that regularly support technology initiatives via proceeds from successful fundraising activities. Avenues to corporate and private sponsorships will continue to be pursued.

The **Voorhees Educational Technology Association (VETA)**, a former non-profit foundation, was founded during the 1996-97 school year to spearhead technology funding initiatives throughout the community. The group was comprised of interested community members who recognized the value of educational technology, who were aware of the funding limitations and their impact on the educational technology program, and were willing to contribute their time and creativity to improving this situation. While Voorhees Township is a small community, many of its members are career professionals in a variety of fields including engineering, computer science, advertising, marketing, education, etc. Members were drawn from these professionals and contributed their time and expertise as volunteers.

Although existing as a non-profit corporation, a separate entity from the school district itself, VETA's activities were congruent with the district's established educational technology mission statement. The role of VETA was to plan and implement strategies leading to the acquisition of financial and human resources, contributing to the district's efforts in meeting the objectives in its Educational Technology Plan. Through publicity in its efforts, VETA was also able to effectively raise community awareness to the issues mentioned in order to extend the present support base.

Although VETA disbanded as an organization in 2005-06, the group is mentioned here (described below) because two of their most important projects had led to significant changes in bringing technology into the classroom environment, and the concept of having such a foundation may be revisited in the future:

Net Day Project

Netday NJ was a statewide initiative to speed the connection of 1,000 New Jersey schools to the world of information available on the Internet. In the form of an electronic barn raising during the 1996-97 academic year, citizens in school communities throughout the state are working together to help K-12 schools obtain Internet access in certain instructional areas. The infrastructure needs at that time in Voorhees Township School District, based on future plans involving emerging technologies, required a more robust and complete cabling plan than outlined in the Netday NJ specifications. As a result, the district pulled fiber optic cabling to every instructional and non-instructional area in each of its schools. All district schools now have the capacity for high-speed data, voice, and video communications within each classroom. Internet access is but one of many opportunities now possible, and the district has the ability to continually refresh its network communications equipment and enhance the shared resources available without having to worry about re-cabling in its buildings for years to come.

SMARTBoard Project

Interactive whiteboards for the manipulation of computer generated objects in large group instruction and presentations became a desirous resource among the teaching staff during the 2002-03 school year. With limited budget funds channeled into other areas, VETA provided each school with a SMARTBoard, LCD projector, notebook computer, mobile cart and staff training in order to facilitate their use in a pilot program. The provision of these resources through outside funds has enabled the district to enhance the teaching learning process, and within five years, due to local budget and federal ARRA (stimulus) funding, there was an installed SMARTBoard and projector in every regular education, special education, and basic skills instruction classroom. This is mostly true in the middle school, and additional units will be deployed due to the success experienced and the heightened demand by teachers.

Voorhees Township School District Parent/Faculty Organizations (PFOs) are also comprised of many interested and concerned community members having a stake in the educational process in the Voorhees Township schools. Since 1989-90, each year, all these independent organizations have provided significant funding to their respective buildings that has allowed for the procurement of hardware, software and online resources that would have not otherwise been available. There is a strong working relationship between these parent groups and the school administration, and these partnerships are valued and beneficial to all.

The **Voorhees Township Community Education and Recreation (CER)** program has been a financial contributor in recent years, contributing some portion of its revenue back into the school district in the form of funding for technology resources. In recent years, CER has provided the school district with mobile wireless laptop labs, iPads, multimedia

presentation systems, CCTV video surveillance security and other expensive resources. Plans to create income by providing adult technology education and community access to technology resources are under consideration as well.

Bring Your Own Device (BYOD) Initiative - adoption of a policy allowing students and/or employees bring personally owned mobile devices to school and using those devices to access privileged school resources such as email, file servers and databases as well as their personal applications and data. The district may be able to save money on expensive devices, and users may take better care of devices they view them as being their own. Although there are concerns regarding school liability, security of network resources, lack of control (content filtering), equity (not all students have these devices), wireless network bandwidth capacity and the establishment of an environment of non-standard, dissimilar resources (devices and applications), from an economic standpoint there is some merit.

Deliberate coordination between offices – curriculum, business, buildings and grounds, and information technology – is vital for addressing all aspects of an initiative and achieving success, and this has improved. Pooling district, building and external financial resources is a byproduct of strong coordination of efforts, and a better return on our investments can be realized.

Technogy for Digital Learning - District Action Plan

The **Action Plan** portion of this document represents the course that the Voorhees Township School District is planning to take in a three-year period to achieve its educational technology mission and pursue the realization of its vision. Eight (8) **key categories (gears)** have been identified in alignment with the NJDOE Digital Learning Framework, **target areas** have been listed for each, and **goals** have been developed within each of these target areas in order to establish direction based on perceived needs. **Tasks**, or specific objectives, have been defined to serve as concrete steps leading to the fulfillment of each goal.

Each goal provides a **timeline** reflecting those years in which some portion of the associated tasks will be addressed, and the **responsible persons** (individuals or groups) for implementation are named. The **evaluation** of each task is represented in concrete or observable data serving as an indicator or benchmark in the successful completion of the task.

Cost estimates were determined by examining past and current district expenditures and by reviewing vendor proposals, quotations and advertised pricing on related products and services. Some tasks require no additional expense. Pricing on some planning and procedural activities, or desired outcomes, cannot be differentiated as a budget line item. It may, however, be linked to costs related in other areas. The proposed three-year budget may be reviewed in Appendix A.

1. Curriculum, Instruction, and Assessment

Timeline:	☑2023-24 ☑2024-25 ☑2025-26
Responsible Persons:	Assistant Superintendent for Curriculum & Instruction Principals Directors
Evaluation:	> 2 point growth in each school's overall NJTRAx Digital Learning Readiness Score and Digital Implementation Score Reduction in gap to <1 point between each school's NJTRAx Digital Learning Readiness Score and Digital Implementation Score

1.1. 21st Century / Deeper Learning

1.1.1. Align curriculum and instruction with the vision for digital learning, creating the expectation that all students will leave the district's educational program better prepared for college or career readiness.

1.1.1.1. Employ instructional methodologies integrating technology resources in the classroom to achieve local curriculum and instructional objectives in all content areas, to include the NJSLS Standards.

1.1.2. Promote standards-based content and elements of deeper learning (e.g., critical thinking and decision making, creativity and innovation, bi-directional communication, research and information literacy, and self-direction).

1.1.2.1. Enhance all curricular areas, using technology as a vehicle to integrate critical thinking, cooperative learning, and problem-solving skills into classroom activities.

1.1.2.2. Enhance all curricular areas, using technology as a vehicle to explore cultural diversity, languages, values, interests and societal differences among world communities.

1.1.2.3. Increase student proficiency in using technology to gather, analyze and present information.

1.1.3. Create opportunities for learning that empower all students to experience and master the core understandings related to that content.

1.1.3.1. Increase student participation in authentic technology infused projects using available resources, based on 21st Century themes, 2020 NJSLS Standards 8.1 Computer Science, 8.2 Design Thinking, 9.4 Career Readiness, Life Literacies and Key Skills, as well as cross-content integration.

1.1.4. Adopt formal processes to systematically integrate 21st Century skills in support of a deeper learning model as a design feature of all curricula and instruction.

1.1.4.1. Schedule cooperative planning between teachers and building technology specialists focusing on the development and articulation of instructional technology integration strategies, activities and methods.

1.2. Personalized Learning

1.2.1. Leverage technology, a range of digital learning resources, and the principles of Universal Design for Learning (UDL) to personalize the competency-based learning experience for each student to ensure all students attain mastery.

1.2.1.1. Maximize the appropriate integration of technology resources in the teaching-learning process (including privately-owned devices where allowed) within all content areas based on relevant research, providing equal access to all students regardless of gender, race, national origin, socio-economic status, religious affiliation and special needs or disabilities.
1.2.1.2. Use AI to analyze students' learning patterns and preferences, then tailor the educational experience to meet their needs, provide immediate feedback, and generate personalized study plans for each student, helping them to learn at their own pace and improve their academic performance.
1.2.1.3. Use AI chatbots to provide students with personalized and interactive learning experiences; by engaging with students in natural language, it can answer their questions, clarify concepts, and provide additional resources to support their learning.

1.2.2. Allow students to have a significant degree of control and choice in what, when, and how they learn.

1.2.2.1. Implement a project-based, technology-infused format in which individual and groups of students select projects that address needs identified in both academic content and technology literacy target areas within the context of a selected 21st century theme and relevance to student interest.
1.2.2.2. Use AI to adapt materials for students with different learning needs, showing respect for individual differences.

1.2.3. Tailor the content, pacing, and feedback to the needs of each student, empowering all students with choice, where they regulate and take ownership of significant aspects of their learning.

1.2.3.1. Implement a project-based, technology-infused format in which individual and groups of students design and manage projects that address needs identified in both academic content and technology literacy target areas within the context of a selected 21st century theme and relevance to student interest, and is time sensitive based on rigor and the accessibility of needed resources.

1.2.4. Provide all students with the opportunity to do authentic real-world work, collaborating with educators, fellow students, and others outside of the school environment on projects that often (1) involve the creation of knowledge products, (2) foster deep learning, and (3) have value beyond the classroom walls.
1.2.5. Support student projects through connected teaching and engages other professionals, parents/guardians, and community members as appropriate.

1.2.5.1. Enhance teaching-learning process through improved communications systems, and blended learning opportunities that take advantage of resources now available in many homes.

1.2.5.2. Increase student participation in global distance learning activities while educating students about appropriate online behavior, interactions in social networking sites, and cyber bullying awareness.

1.3. Collaborative, Relevant, and Applied Learning

1.3.1. Engage students in collaborative learning communities with peers, teachers, experts, and others outside the school environment.

1.3.1.1. Increase student participation in global distance learning activities while educating students about appropriate online behavior, interactions in social networking sites, and cyber bullying awareness.

1.3.2. Empower students through digital learning environments to do projects that often involve the creation of knowledge products, foster 21st Century skills/deeper learning, and have value beyond the classroom walls.

1.3.2.1. Increase student participation in authentic technology infused projects using available resources, based on 21st Century themes, 2020 NJSLS Standards 8.1 Computer Science, 8.2 Design Thinking, 9.4 Career Readiness, Life Literacies and Key Skills, as well as cross content integration.

1.4. Element 4: Leveraging Technology

1.4.1. Set high expectations for evidence-based, digital learning transformations by developing a culture of digital innovation.

1.4.1.1. Engage students in technology-rich learning activities that promote the development of defined 21st Century skills (e.g. information, media and communications literacy) by heightening expectations for teachers, and providing proper levels of staff supervision, support and professional development.

1.4.1.2. Identify legitimate performance expectations for using the productivity tools available to administrative, teaching & support staff.

1.4.2. Redesign physical learning spaces and digital learning environments that integrate technology seamlessly into teaching, learning, and assessment.

1.4.2.1. Ensure access for all students to the district's technology resources, whether located in the classroom, the media center and any other technology-rich access areas (for students) throughout the school. Universal

design standards will be considered in any new construction to assure equal access for all, including students with disabilities.

1.4.2.2. 1.4.2.2 - Use AI to make learning more interactive - AI-powered virtual assistants, chatbots, and educational games can enhance student motivation and provide support when instructors may be unavailable.

1.4.2.3. Use AI to make learning more engaging - AI-powered simulations and VR experiences can create immersive learning experiences that allow for more exciting exploration of subjects.

1.4.3. Facilitate a transformation that may involve virtual learning, transition from paper to digital, digital citizenship and digital literacy for students, ensuring that students learn in a culture of digital responsibility and ethics.

1.4.3.1. Incorporate online safety concepts and skills into student instructional activities at each grade level, as appropriate.

1.4.3.2. Provide resources for parents regarding online safety, including published website links, printed materials, scheduled presentations and/or workshops.

1.4.3.3. Use AI to advance the fundamental values of academic integrity - honesty, trust, fairness, respect, and responsibility - while addressing plagiarism and other risks.

1.4.4. Base decisions related to technology, devices, networks, and infrastructure on the learning needs of students in a culture of digital responsibility.

1.4.4.1. While AI can be a valuable tool for schools, it's essential to ensure that any technology is used in conjunction with other teaching methods, that it's properly integrated into the curriculum, and additionally, schools must ensure that student data is kept private and secure.

1.4.5. Ensure that the educators who teach in these digital learning environments have the skills to adopt and adapt to new technologies, using filters that ensure that the use of technology adds value to the learning process.

1.4.5.1. Implement technology in ways that help all staff members better manage data, communicate and collaborate effectively.

1.4.5.2. Increase administrator and teacher access to online productivity resources in each building by providing demonstrations and training, modifying schedules, reorganizing resource availability, and promoting use of privately-owned devices as appropriate.

1.4.5.3. Identify legitimate performance expectations for using the information management systems available to administrative, teaching & support staff.
1.4.5.4. Identify legitimate performance expectations for using the communications and collaborative systems available to administrative, teaching & support staff.
1.4.5.5. Implement AI to automate routine administrative tasks such as grading, attendance-taking, and even lesson planning, freeing teachers to focus on delivering personalized instruction and building relationships with students.
1.4.5.6. Encourage use of AI chatbots by teachers to provide up-to-date information and insights, allowing them to create more relevant and engaging curriculum for their students.
1.4.5.7. Enhance assessments using AI by automating question creation, providing standardized feedback on common mistakes, and designing adaptive tests based on real-time student performance.
1.4.5.8. Use AI to conduct diagnostic assessments to identify gaps in knowledge or skills and enable rich performance assessments - teachers must ultimately be responsible for evaluation, feedback, and grading, including determining and assessing the usefulness of AI in supporting their grading work.
1.4.5.9. Adapt assignments, assessments, and grading to demonstrate content learned (regardless of if or how AI supported that learning), appropriate citations of AI showing what was used and how, and skill assessments designed to remove the possibility of AI support.

1.4.6. Implement metrics to document the schools' academic return on investment.

1.4.6.1. Ensure mastery by each student of a core set of technological skills through scheduled participation in mandatory technology-rich projects conducted by the classroom teacher in all academic content areas.

1.5. Element 5: Assessment – Analytics Inform Instruction

1.5.1. Use technology as vehicles for quality diagnostic, formative, and summative assessments, aligned to the vision for digital learning, and include assessments for all learning standards, 21st Century skills.

1.5.1.1. Maximize use of existing instructional technology resources to facilitate the NJSLA assessments for students in grades 3-8, measuring college and career readiness.
1.5.1.2. Assess student technological skills proficiency at the conclusion of each technology-infused project using an appropriate rubric or checklist and

manage using grade book software as well as the school's student information system.
1.5.1.3. Manage teacher performance evaluations using an online management portal, providing classroom walkthrough data analysis and reflection, live observation, data collection and reporting tools.
1.5.1.4. Use advanced AI tools to increase fairness by identifying and minimizing biases in grading and assessments.

1.5.2. Ensure that student projects involve peer review and revision, as well as self-assessment, empowering them to excel.

1.5.2.1. Maintain digital portfolio for each student in grades 3-8, archiving completed technology projects as evidence of technological skills proficiency.

1.5.3. Create mechanisms (i.e., processes and digital environments) that empower staff and students to use data to improve, enrich, and guide the learning process. Educators actively use data to guide decisions related to curriculum, content, instructional strategies, and assessments.

1.5.3.1. Report technological literacy status (NJSMART) for each 8th grade student based on longitudinal data maintained using the district's student assessment and reporting instrument and evidence observed in each student's digital portfolio.
1.5.3.2. Perform tasks in fulfilling the student information submission requirements in the NJSMART initiative, promoting administrative use of available data reporting tools.
1.5.3.3. Implement AI to help identify students at risk of falling behind by providing early warnings and intervention strategies based on analyzing data such as student performance, attendance, and behavior.
1.5.3.4. Use AI to assist teachers by providing real-time data on student progress, which can inform instructional decisions.

2. Use of Time

Timeline:	☑2023-24 ☑2024-25 ☑2025-26
Responsible Persons:	Assistant Superintendent for Curriculum & Instruction Principals Directors
Evaluation:	> 2 point growth in each school's overall NJTRAx Digital Learning Readiness Score and Digital Implementation Score Reduction in gap to <1 point between each school's NJTRAx Digital Learning Readiness Score and Digital Implementation Score

2.1. Flexible Learning, Anytime, Anywhere

2.1.1. Leverage technology and media resources so online learning options are available for students at any time of day, from home, at school, and in the community.

2.1.1.1. Provide access to communications links for student cooperative learning activities using approved web, e-mail, messaging, videoconferencing and social media services.

2.1.2. Promote flexibility and adaptability so that students and teachers use time innovatively, driven by student needs, interests, and preferences for learning.

2.1.2.1. Implement technology in ways that help all students and staff members better manage time and perform tasks.

2.2. New Pedagogy, Schedules, and Learning Environment for Personalized Learning

2.2.1. Facilitate more personalized learning by letting educators work together to identify and validate new designs for personalized learning wherein the use of time is adaptable and flexible.

2.2.1.1. Maintain access to communications links, allowing for collegial networking, collaboration and completion of important tasks through sharing of resources including web, groupware, e-mail, messaging, virtual meeting, videoconferencing, and personal device mobility synchronization services.

2.2.1.2. Implement AI chatbots to help schools automate certain tasks, such as answering routine questions or providing feedback on assignments.

2.2.2. Make associated resources available to all students both synchronously and asynchronously to promote flexibility.

2.2.2.1. Provide and promote the use of available resources for remote access, allowing for student and staff use of data and collaborative resources from home or other location during the off hours.

2.2.2.2. Students can access AI chatbots from anywhere, anytime, so implementing their use can be especially helpful for students who need extra support outside of class or those who cannot attend school in person.

2.3. Competency-Based Learning

2.3.1. Ensure the pace of learning remains flexible, based on the needs of individual students and the challenges of complex, project-based work.

2.3.1.1. Implement a project-based, technology-infused format in which classroom teachers and building-level technology specialists jointly select a project that best meets the curriculum needs of the class during the time of year for which it is planned, addresses the needs identified in both academic content and technology literacy target areas within the context of a selected 21st century theme, and is time sensitive based on rigor and the accessibility of needed resources.

2.4. Strategies for Providing Extended Time for Projects and Collaboration

2.4.1. Replace rigid schedules and short class periods with flexible time allocations, allowing for extended work time for complex projects.

2.4.1.1. Maximize and expand flexible scheduling, utilizing large instructional time blocks, allowing for better integration of subject matter and available technologies.

2.4.2. Repurpose what was previously homework time, as digital learning enables all students to productively use time during and beyond the school day.

2.4.2.1. Leverage available tools to create new learning environments that are: “24/7/365”, “just-in-time”, “personalized” “year-round”, “ life-long”, “project-based”, “blended/online”, “virtual”, “game-based”, “flipped”, “learner-driven”, “on-demand”, “assistive”, and “technology-rich”.

3. Technology, Networks, and Hardware

Timeline:	☑2023-24 ☑2024-25 ☑2025-26
Responsible Person:	Director of Technology
Evaluation:	> 2 point growth in each school's overall NJTRAx Digital Learning Readiness Score and Digital Implementation Score Reduction in gap to <1 point between each school's NJTRAx Digital Learning Readiness Score and Digital Implementation Score

3.1. Equity and Adequacy of Devices

3.1.1. Adopt diverse, creative, and environmentally sound options to ensure that appropriate Internet-ready technology devices are available to all students to support learning at any time, based on the district vision for digital learning.

3.1.1.1. Facilitate information-rich teaching, learning and administrative environments by securing and integrating hardware products into activity areas, congruent with requirements determined by software products, online services and research-based instructional methodologies to be employed.
3.1.1.2. Strive to achieve a student-device ratio in all instructional environments based on needs driven by planned instructional activities – all devices (district provided or privately-owned) should be adequately equipped to perform the desired tasks. There must be a 1:1 student-device ratio per grade level (3-8) for NJSLA assessments administration based on technology readiness specifications.
3.1.1.3. Maximize the appropriate integration of technology resources in the teaching-learning process (including privately-owned devices where allowed) within all content areas based on relevant research, providing equal access to all students regardless of gender, race, national origin, socio-economic status, religious affiliation and special needs or disabilities.
3.1.1.4. Identify assistive technology needs for special education students annually in Individualized Education Programs (IEPs), purchase instructional materials and provide training as required.
3.1.1.5. If an assignment permits the use of AI tools, the tools will be made available to all students, considering that some may already have access to such resources outside of school.

3.1.1.6. Make AI resources universally accessible, focusing especially on bridging the digital divide among students and staff.

3.1.2. Ensure decisions regarding the purchase of devices are a collaborative process involving representation from curriculum, instruction, assessment, information technology, and business groups.

3.1.2.1. Utilize curriculum review/revision committees and school-based task forces to evaluate and select instructional media for purchase – products shall include educational software & device-specific "apps," online reference tools, audio and video products, cable television and satellite-based programming, as well as videoconference-based electronic field trips and related fee-based activities. A technology specialist and librarian (media specialist) should be added to each committee engaged.
3.1.2.2. Ensure product selection criteria correlates with the mastery of content defined in the NJ Core Curriculum Content Standards, Common Core State Standards, and locally defined academic content.
3.1.2.3. Charge each curriculum revision committee member, end-user and technology specialist to remain actively engaged and focused on the task of conducting ongoing evaluation and recommendation of related e-learning resources following a curriculum adoption.
3.1.2.4. Utilize district and building-level task forces, comprised of teachers and administrators, to evaluate and purchase standard administrative and productivity applications and services based on identified needs.
3.1.2.5. Evaluate AI tools already in use and create a selection criteria for future evaluations for both instructional and operational considerations.

3.1.3. Achieve 24/7 equitable access through a 1:1 program, through a "bring your own device" (BYOD) program, or a blended environment.

3.1.3.1. Enhance teaching-learning process through improved communications systems, and blended learning opportunities that take advantage of resources now available in many homes.
3.1.3.2. Establish district control of mobile device (district provided or privately-owned) features during use in school (e.g., using the camera, video recording, 3/4G radio, etc.), using a mobile device management (MDM) system, forcing the disabling of identified features based on policy and established guidelines.

3.2. Robust Network Infrastructure

3.2.1. Create and maintain a robust, environmentally sound infrastructure with high speed Internet bandwidth serves all schools.

3.2.1.1.	Maintain a high-speed Internet connection with an Internet service provider, accessible from all instructional and non-instructional work areas in all buildings, accessible by both district owned and personal devices (where allowed).
3.2.1.2.	Monitor existing Internet connection, increasing available bandwidth as needed to ensure compliance with technology readiness specifications for the NJSLA assessments initiative, specifications presented in the Facilities Guide for Technology in New Jersey Schools, and requirements supporting access to the evolving online learning, communication and collaboration environments now available.
3.2.1.3.	Maintain fiber optic horizontal cabling system within each building, providing connectivity between communications outlets in both instructional and non-instructional areas and well-managed equipment racks within established communications closets.
3.2.1.4.	Upgrade scalable switched Ethernet, Fast Ethernet, Gigabit Ethernet and Ten Gigabit Ethernet network backbone in each school LAN, appropriating required bandwidth specifications between switches in communications closets and servers, routers and other critical network resources.
3.2.1.5.	Maintain manageable and highly segmented network architecture by decreasing the workstation-to-switched port ratio between devices on each building LAN in Ethernet, Fast Ethernet and Gigabit Ethernet environments.
3.2.1.6.	Maintain existing fault-tolerant, switched Gigabit Ethernet, extended campus network between district buildings, utilizing new single-mode fiber optic cabling systems, providing required bandwidth and quality of service (QoS) features necessary to realize centralized administration and district-wide access of all available network resources.
3.2.1.7.	Maintain spread spectrum radio access points and WLAN controllers, providing interfaces in all district buildings so that IEEE 802.11 A/B/ G/N/AC wireless network connectivity is available to mobile device users and in the facilitation of special RF-based projects (e.g., building security, facilities monitoring, mobile assets tracking, NJSLA testing, etc.), tasks or in the creation of mobile learning/work environments.

3.2.2. Monitor usage and identify and remedy possible bottlenecks prior to detrimental impacts on teaching and learning.

3.2.2.1. Maintain and evolve the district's communications network within and among district buildings based on current and emerging specifications for data, voice and video applications.

3.2.3. **Establish administrative processes and procedures are developed to maintain, operate, update, and govern the network**.

3.2.3.1. Create and maintain a formalized IT operations manual that includes detailed network diagrams, school floor plans and wiring diagrams, equipment inventories stating location, function, configuration and utilization, as well as the district's overall disaster recovery and contingency plans.

3.2.3.2. Implement reasonable security measures to secure all online resources, including AI technologies, against unauthorized access and misuse.

3.2.4. Ensure the infrastructure includes access to a digital learning platform that includes: a content management system (CMS); a learning management system (LMS); a referatory (i.e., database that refers user to appropriate sources) for apps, software, and other services aligned to the curriculum; a communication system; collaboration tools; and online and embedded assessments; etc.

3.2.4.1. Maintain permanent availability of content delivery systems, enabling classroom access to broadcast cable television, video conferencing, and media distribution resources that originate on both the local area network and the Internet.

3.2.4.2. Utilize Cloud based tools, including approved social media web sites, virtual learning & gaming environments, cloud-based services (storage, apps, digital content), and virtual private network access to school hosted resources, to enhance opportunities for students to pursue 21st century skills in school, creating a flexible, blended approach to the teaching-learning process.

3.2.4.3. Expand eBook circulation capability in all school libraries, integrating with the existing library management system, using both district-provided and privately-owned technology devices as eReaders.

3.2.4.4. AI use in Learning Management Systems (LMS) can analyze student performance data to provide insights to educators, helping them tailor instruction or interventions.

3.2.5. Ensure this platform provides ready and consistent access to tools, resources, and communications for teaching, learning, assessment, and administration.

3.2.5.1. Provide staff members with online tools facilitating the discovery and reservation of e-learning resources available for use in the classroom, whether access is to be scheduled or available in an on-demand fashion.
3.2.5.2. Maintain and scale resources in the extended campus network to enhance the district's ability to store and protect critical data and growing libraries of electronic content via new and existing network attached data storage and backup devices.
3.2.5.3. Work to realize the benefits of AI in education, address risks associated with using AI, and evaluate if and when to use AI tools, paying special attention to misinformation and bias.

3.2.6. Collaboratively design, communicate, and implement responsible use policies with students and staff.

3.2.6.1. Ensure continued safe and appropriate access to both local and Internet-based resources and content by entire school community.
3.2.6.2. Implement and enforce existing policies for network resource acceptable use, Internet safety, and use of personal devices in school for both students and staff.

3.2.7. Confirm the network design follows these policies (e.g., filtering, redundancy, etc.), and as policies are developed to guide the design and use of the network, establish coherence between law and enacted policy.

3.2.7.1. Maintain LDAP authentication in district web content filtering practices so that that access to and monitoring of resources are policy based, relying on group membership following user authentication rather than the IP address of any given device or placement in a given subnet, with group access policies reflecting acceptable use of network resources guidelines for students or staff.
3.2.7.2. Ensure proper student supervision during online activities, and secure required administrative permissions in the case of a “BYOD” activity where Internet access is not subject to web content filtering restrictions.
3.2.7.3. Maintain required parent consent data for each student, as part of his/her record in the district’s student information system, concerning Internet access, media release and use of privately-owned technology devices in school.

3.2.8. Ensure the infrastructure adequately serves various programs for students and staff, including 1:1 and BYOD, often by portioning the network to accommodate guest access.

3.2.8.1. Implement identity-based “BYOD” network access control that pairs the user with his/her registered personal device, determining levels of access based on user credentials (permissions), allowing for monitoring user activities, and evaluating the "posture" of the device with regard to operating system security update versions, anti-virus definitions, and whether the device contains "rooted" (jail broken) apps that may propagate malware.

3.2.9. Ensure funding for the infrastructure is consistent, driven by instructional needs in the district’s strategic plan.

3.2.9.1. Utilize annual district funds to secure needed educational technology resources.
3.2.9.2. Continue process of annual and long-range district budget planning for the acquisition of educational products and services based on curricular plans for digital learning.

3.3. Adequate and Responsive Support

3.3.1. Provide technical assistance within the schools that is characterized by a positive service orientation, supporting the learning needs of students and educators.

3.3.1.1. Maintain/extend existing educational technology support positions and enhance capabilities.
3.3.1.2. Continue to budget for increasing salary and benefits expenses to ensure continuance of the district’s current level of capability in supporting its technology end-users.
3.3.1.3. Realign shared responsibility for equipment management and maintenance between technology specialists, school librarians and teachers, so that the approaches taken may be more closely coordinated and equitable.
3.3.1.4. Provide the appropriate type and level of training for technical support staff members based on the nature of the staff member’s position, the scope and depth of job responsibilities and assigned tasks, as well as his/her professional interests.

3.3.2. Verify that maintenance, operations, and management of the systems is ongoing, with users notified when updates or regularly scheduled maintenance are scheduled.

3.3.2.1. Continue to maintain "mission critical" hardware and software resources on full-feature support contracts to minimize potential downtime and obtain product upgrades as available.
3.3.2.2. Ensure availability for timely upgrades of critical software applications via annual support/licensing renewals or direct upgrade purchases where appropriate.
3.3.2.3. Conduct routine maintenance tasks, such as the rollout of operating system patches and log monitoring, in a more controlled and consistent manner, based on an established schedule, in order to enhance the district's ability to prevent or resolve trouble with its many resources.
3.3.2.4. Identify threats and manage risks posed to district technology assets, such as operating systems, applications and data.
3.3.2.5. Maintain and expand gateway-based protection, at the edge of the district's network, to include firewall-based IP packet filtering, anti-virus/spam/spyware software solutions, and intrusion prevention resources.
3.3.2.6. Review/revise policy and continue application of periodic service patches and revision updates to network operating systems and databases in the existing Novell, Linux, and Microsoft Windows Server environments, as well as on any other network operating system platform to be introduced in the future.
3.3.2.7. Review/revise policy and continue performance of periodic service patches and revision updates to computer workstation operating systems, network clients, protocols, services and applications in the existing Microsoft Windows desktop and notebook PC environments, as well as for any future operating system used in a PC, network appliance, handheld or integrated devices to be introduced in the future.
3.3.2.8. Review/revise policy and continue performance of periodic service patches and firmware revision updates to network communications devices as necessary to maintain optimum functionality.
3.3.2.9. Extend the use of PC desktop configuration and management software for imaging workstations, remote support, device inventory management, policy enforcement, application and patch distributions, considering options for similar management of mobile devices (district provided and privately-owned)

3.3.3. Ensure this system quickly and efficiently meets all staff and students' technical assistance needs in the schools; that It is increasingly proactive in providing resources, coaching, and just-in-time instruction that prepares

teachers and students to troubleshoot basic maintenance issues as they occur, reducing the need for external support during the instructional day.

3.3.3.1. Empower technology specialists to enhance performance of increasingly important instructional, curriculum support and staff training responsibilities by offsetting time spent in technology resource management through consideration of employment of an additional computer/network technician.

3.3.3.2. Reinforce, and communicate the evolving nature of the role of each school's existing "technology specialist" position toward that of a technology support, curriculum and instructional facilitator and resource person, with reduced emphasis on direct student instruction under the condition that no additional technical staff is hired to offset the expanding workload.

3.3.3.3. Revise information technology competencies for all staff members, at skill complexity levels identified as beginner, intermediate and advanced, reflecting district expectations for mastery of relevant concepts and skills required for the simple operation and troubleshooting of available resources as appropriate by job category.

3.3.3.4. Extend information technology competencies for all staff members, reflecting district expectations for the performance of simple tasks related to preventive maintenance on the operating systems of the computers and other devices they use.

3.4. Formal Cycle for Review and Replacement

3.4.1. Establish a formal cycle for review, upgrades, and/or replacement

3.4.2. Continuously monitor technologies (e.g., software, hardware, and infrastructure) for needed upgrades, purchases, and, when called for, sunsetting of technologies.

3.4.2.1. Redistribute and/or retrofit aging equipment, performing only cost-effective upgrades, into areas where prolonged usage may continue to have perceived value.

3.4.3. Retire obsolete technology resources in a timely, environmentally appropriate, and proactive manner.

3.4.3.1. Replace obsolete computers and equipment used in all instructional environments and administrative work areas incrementally, at a pace commensurate with changing instructional and technological needs, not to exceed a period of five (5) years.

4. Data and Privacy

Timeline:	☑2023-24 ☑2024-25 ☑2025-26
Responsible Person:	Superintendent Assistant Superintendent for Curriculum & Instruction Principals Directors
Evaluation:	> 2 point growth in each school's overall NJTRAx Digital Learning Readiness Score and Digital Implementation Score Reduction in gap to <1 point between each school's NJTRAx Digital Learning Readiness Score and Digital Implementation Score

4.1. Data and Data Systems

4.1.1. Facilitate data-informed decision making using appropriate data that are readily available, easily comprehensible, and useful for supporting the decision-making processes.

4.1.1.1. Provide administrator training in the analysis and use of available data, including Student Growth Objectives, Student Growth Percentiles, Staff Evaluation Scores.

4.1.1.2. Provide administrator training in the analysis and use of standardized testing data, including NJSLA, Terra Nova, ACCESS ELL and Dynamic Learning Maps (DLM).

4.1.2. Ensure that data are available at any time, on any desktop, and from any location; made available through real-time access to data dashboards, data analytics, and data warehouses.

4.1.2.1. Evaluate current database management and reporting tools used by departments related to students, personnel, materials, and financial information, and make determinations as to whether changes are required based on current needs.

4.2. Data Policies, Procedures, and Practices

4.2.1. Use the Family Educational Rights and Privacy Act (FERPA), the Child Internet Protection Act (CIPA), and the Children's Online Privacy Protection Act (COPPA) as the basis for creating policy.

4.2.1.1. Create, revise policy as necessary to maintain compliance and to protect children, families and their information.
4.2.1.2. Evaluate all AI systems deployed within the school for compliance with relevant laws and regulations, including those related to data protection, privacy, and students' online safety. AI tools will be required to detail if/how personal information is used to ensure that personal data remains confidential and isn't misused.
4.2.1.3. Consult district's approved list of third-party AI tools, as unauthorized AI tools might not adhere to our data privacy standards.
4.2.1.4. Prevent staff and students from inputting personal, sensitive, or confidential data into any AI system without prior authorization, including any data related to student education records.
4.2.1.5. All AI-driven data collection will adhere to local data protection regulations and best practices including the informing and seeking consent of parents, guardians, and students.
4.2.1.6. Use AI in ways that do not compromise teacher or student privacy or lead to unauthorized data collection, in order not to violate privacy laws and our district's ethical principles.

4.2.2. Ensure the district has up-to-date policies, procedures, and practices that address legal, ethical, and safety issues related to the privacy and security of data, and the usage of data, technology, and the Internet.

4.2.2.1. Maintain and enforce protocol for student enrollment practices, as well as standards related to the format in which data items are recorded and accessed in the district's student information systems.
4.2.2.2. Adopt new policies and create related guidelines and procedures for responsible and ethical use of AI, preventing misuse or overreliance on automated content generation.
4.2.2.3. Review AI guidance annually, or sooner, to ensure it continues to meet the school's needs and complies with changes in laws, regulations, and technology.
4.2.2.4. Create an AI protocol document that sets parameters for all the ways AI may be used responsibly by district administrators, teachers, staff and students that lists goals for appropriate use, with clear expectations and consequences.
4.2.2.5. Review and modify (if necessary) any existing board policies that may address topics where the use of AI is relevant, has already surfaced, or may surface in the future.

4.2.3. Address the collecting, storing, analyzing, reporting, exchanging, and archiving of data; as well as the usage of data, the Internet, and technology by all students and education professionals in the course of teaching, learning, communication, and the management of school services, in such policies, procedures, and practices.

4.2.3.1.	Maintain and scale resources in the extended campus network to enhance the district's ability to store and protect critical data and growing libraries of electronic content via new and existing network attached data storage and backup devices.
4.2.3.2.	Identify legitimate performance expectations for using the communications and collaborative systems available to administrative, teaching & support staff.
4.2.3.3.	Reinforce each staff member's responsibility for providing and maintaining content on the district's websites and establish expectations for the periodic completion of related tasks.
4.2.3.4.	Reinforce expectations for school and departmental secretarial staff, as well as other groups responsible for managing student data, to ensure that data entry is complete, accurate, timely, and conforms to the established standards.
4.2.3.5.	Perform tasks in fulfilling the student information submission requirements in the NJSMART initiative, promoting administrative use of available data reporting tools
4.2.3.6.	Perform tasks in fulfilling the Technology Readiness requirements in the NJSLA and other online student assessment initiatives, including design of local online testing environments.
4.2.3.7.	Manage teacher performance evaluations using an online management portal, providing classroom walkthrough data analysis and reflection, live observation, data collection and reporting tools.
4.2.3.8.	Improve central administration personnel officials' capacity to provide notifications to network resource provisioning agents regarding new staff hiring, departmental transfers, and terminations in a direct and timely consistent fashion, so that network access privileges are granted or modified more efficiently.
4.2.3.9.	Enhance district and school office staff's capacity to provide emergency notifications and instructions (e.g., voice, e-mail, SMS, network broadcast messages, etc.) to staff in the event of a building maintenance or security incident, severe weather conditions or other catastrophic event.

4.3. Data-Informed Decision Making

4.3.1. Use of formative and summative assessment data as part of the school culture, with administrators, teachers and, perhaps most importantly, all students actively using this data to improve learning.

4.3.1.1. Participate annually in the NJTRAx Digital Learning Readiness surveys to obtain and compare results regarding Overall Digital Readiness and Overall Digital Implementation.

4.3.1.2. Include Digital Learning focus in annually established administrator SMART Goals, Student Growth Objectives and Professional Development Plan.

4.3.1.3. Manage teacher performance evaluations based on an established framework using an online management portal, providing classroom walkthrough data analysis and reflection, live observation, data collection and reporting tools.

4.3.1.4. AI use in Learning Management Systems (LMS) can analyze student performance data to provide insights to educators, helping them tailor instruction or interventions.

4.3.2. View assessment as part of the teaching and learning process, not punitive.

4.3.2.1. Assess student technological skills proficiency at the conclusion of each technology-infused project using an appropriate rubric or checklist and manage using grade book software as well as the school's student information system.

4.3.2.2. Maintain digital portfolio for each student in grades 3-8, archiving completed technology projects as evidence of technological skills proficiency.

4.3.2.3. Report technological literacy status (NJSMART) for each 8th grade student based on longitudinal data maintained using the district's student assessment and reporting instrument and evidence observed in each student's digital portfolio.

4.3.3. Create an expectation in the school that data will inform all teaching and learning practices and decisions, modeling this at all levels of the school system, from administration to the students themselves.

4.3.3.1. Collaborate to establish metrics, collect and analyze data, interpret results, and share findings to improve staff performance and student learning.

4.4. Data Literate Education Professionals

4.4.1. Ensure that educators in the system are data literate, understanding the use and potential misuse of data in the teaching and learning process.

4.4.1.1. Perform tasks in fulfilling the student information submission requirements in the NJSMART initiative, promoting administrative use of available data reporting tools such as EdAnalyzer.

4.4.1.2. Manage teacher performance evaluations based on an established framework using an online management portal, providing classroom walkthrough data analysis and reflection, live observation, data collection and reporting tools.

4.4.2. Ensure that educators in the system are informed about and adhere to district policies on data privacy and security, making sure they also ensure that their students are knowledgeable and informed about data privacy and security, and that all students are good stewards of their own data.

4.4.2.1. Adopt Common Sense Media Digital Citizenship curriculum and implement grade level appropriate materials – all staff responsible for working through this content with all students.

4.4.3. Provide professional learning opportunities in data literacy, and supports all education professionals technically and instructionally in their use of data for learning.

4.4.3.1. Include data literacy topics throughout all professional development opportunities offered to staff concerning Digital Learning and 21st Century Skills.

5. Community Partnerships

Timeline:	☑2023-24 ☑2024-25 ☑2025-26
Responsible Persons:	Superintendent Assistant Superintendent for Curriculum & Instruction Principals
Evaluation:	> 2 point growth in each school's overall NJTRAx Digital Learning Readiness Score and Digital Implementation Score Reduction in gap to <1 point between each school's NJTRAx Digital Learning Readiness Score and Digital Implementation Score

5.1. Local Community Engagement and Outreach

5.1.1. Actively involve the community in achieving the school's learning goals.

5.1.1.1. Broaden public relations efforts to promote technology-based initiatives.

5.1.1.2. Educate members of all groups within the community as to the importance of educational technology integration in the schools, promoting 21st century themes & skills, demonstrating student benefits through planned interactive experiences.
5.1.1.3. Provide the community with programs geared toward the development of personal information literacy skills.
5.1.1.4. Update the Voorhees Township Community Education and Recreation (C.E.R.) adult education course offerings in information technology topics in order to provide skills-based training relevant to workplace readiness or retooling.
5.1.1.5. Use AI to help us reach our community's goals, including improving student learning, teacher effectiveness, and school operations.
5.1.1.6. Engage local educators, parents, students, and community members to gather feedback and insights in the creation of goals for AI implementation, to include increasing awareness, building community and capacity, and guiding policy.
5.1.1.7. Share AI-oriented policy drafts with community to explain intentions and address concerns in order to establish trust.

5.1.2. Reach out to the community to (1) extend learning into community centers, libraries, museums, and other public spaces; (2) bring relevance to curricula through partnerships that take the shape of apprenticeships, community service, authentic projects, and the use of community-based experts and resources, etc.; (3) implement community-based exhibitions, reviews, critiques, and celebrations of student work; and (4) coordinate afterschool programs, including collaboration with the school and students' teachers.

5.1.2.1. Expand practice of promoting both school and district wide educational technology initiatives and achievements via web site and printed publications, television, school visitations, and presentations to the Board of Education, statewide professional associations, parent-faculty organizations, local groups and clubs, etc.
5.1.2.2. Increase efforts to provide presentations to community groups on relevant topics focusing on emerging new technologies, related societal issues and the consequential impact they have on education and child development.

5.1.3. Establish a school culture of collaboration, innovation, and empowerment.

5.1.3.1. Enhance communication services that facilitate the exchange of information between the school and home.
5.1.3.2. Enhance the district's Internet web presence by providing additional and more practical information categories, engage in more frequent

information updates in order to keep content current, and use more active elements and media objects to make web pages more stimulating.
5.1.3.3. Incorporate more interactive features into the district's web site allowing parents and community members to use the Internet as a vehicle to provide a school or the district with feedback to questions, posted discussion comments, and collaborative media development in the interest of public relations.
5.1.3.4. Maximize teacher use and reliance on existing district e-mail and voice messaging systems, web content with embedded social apps in enhancing communication between the home and school.
5.1.3.5. Maintain and expand “Going Green” initiative with online report card, attendance and grade book access, virtual backpacks, e-news blasts, voice & SMS notifications, etc.
5.1.3.6. Enhance district and school office staff’s capacity to provide emergency notifications and instructions (e.g., voice, e-mail, SMS, network broadcast messages, etc.) to parents and community members in the event of a building maintenance or security incident, severe weather conditions or other catastrophic event.
5.1.3.7. Enhance the district's Internet web presence to provide accessibility for all by ensuring that new and existing content complies with the Americans with Disabilities Act (ADA) Section 508 guidelines, requiring that all imagery inserted has a ALT attribute assigned, allowing developers to create CSS layouts (templates), and incorporate other ADA friendly navigation objects that do not use JavaScript but are listed as simple hyperlinks.
5.1.3.8. Use AI tools to help draft and refine communications within the school community, deploy chatbots for routine inquiries, and provide instant language translation.
5.1.3.9. Evaluate AI tools for biases and ethical concerns, ensuring they effectively serve our diverse educational community.
5.1.3.10. Use AI tools to help draft and refine communications within the school community, deploy chatbots for routine inquiries, and provide instant language translation.

5.2. Global and Cultural Awareness

5.2.1. Use community partnerships to extend and deepen all students’ knowledge, understanding, and appreciation of cultures and communities other than their own.

5.2.1.1. Survey community organizations to explore availability of regionally and culturally diverse resources, and willingness of these groups to participate in planned educational activities.

5.2.2. Enable all students and education professionals to connect, interact, and collaborate with other students, experts, and organizations from outside of their locale via digital networks.

5.2.2.1. Maintain office and classroom access to communications links, allowing for collegial networking, collaboration and completion of important tasks through sharing of resources including fax, web, groupware, social media, e-mail, messaging, virtual meeting, videoconferencing, and personal device mobility synchronization services.

5.2.3. Build the capacity of all students to recognize and value diversity, enabling them to participate successfully in community partnerships online and face-to-face.

5.2.3.1. Elicit assistance from community organizations and their network of contacts to implement onsite visits and distance learning programs that promote learning activities focused on global awareness and cultural diversity.

5.3. Digital Learning Environments as Connectors to Local and Global Communities

5.3.1. Establish a digital learning environment that offers all students access to e-communication, resource libraries, file exchanges, and Web tools; which facilitate interactions among peers and between teachers, parents/guardians, and all students in school and beyond.

5.3.1.1. Utilize Cloud based tools, including approved social media web sites, virtual learning & gaming environments, cloud-based services (storage, apps, digital content), and virtual private network access to school hosted resources, to enhance opportunities for students to pursue 21st century skills in school, creating a flexible, blended approach to the teaching-learning process.

5.3.2. Facilitate digital citizenship and student responsibility for the development and structure of online communities to ensure online safety and security.

5.3.2.1. Implement and enforce existing policies for network resource acceptable use, Internet safety, and use of personal devices in school for both students and staff.

5.3.2.2. Incorporate online safety concepts and skills into student instructional activities at each grade level, as appropriate.

5.3.2.3. Adopt Common Sense Media Digital Citizenship curriculum and implement grade level appropriate materials, including eBooks on student and teacher iPads

5.3.2.4. Provide resources for parents regarding online safety, including published website links, printed materials, scheduled presentations and/or workshops.

5.3.2.5. Increase efforts to provide presentations to community groups on relevant topics focusing on emerging new technologies, related societal issues and the consequential impact they have on education and child development.

5.3.3. Form partnerships that promote affordable, community-based access to devices and the Internet for students.

5.3.3.1. Provide list of local public venues, and their locations, that offer free WiFi access to patrons or visitors.

5.3.3.2. Provide information concerning the Comcast Essentials program, providing low cost home Internet service to economically challenged families.

5.4. Parental/Guardian Communication and Engagement

5.4.1. Engage parents/guardians and all students in home-to-school communications through a variety of venues, including Internet-based solutions and also options that do not depend on connectivity in the home.

5.4.1.1. Maintain and expand "Going Green" initiative with online report card, attendance and grade book access, virtual backpacks, e-news blasts, voice & SMS notifications, etc.

5.5. District and School Brand

5.5.1. Develop a district and/or school brand (create a name, symbol, or design that identifies and differentiates itself from others)

5.5.1.1. From the vision and the mission statement, create a slogan to be used as a rally cry in an attempt to create and communicate a "brand" for the district's new instructional culture.

5.5.2. Ensure the brand is transparent to all members within the organization—they must all be telling the same story, one that they believe in and stand behind.

5.5.2.1. The "brand" slogan must appear in e-mail signatures as well as on virtually all forms of digital and paper correspondence used by the district.

5.5.3. Communicate the brand to the entire team during faculty gatherings, informal conversations, and various meetings the district and school level.

5.5.3.1. The "brand" slogan must appear on meeting agendas.

5.5.4. Ensure that the brand promise matches the brand experience—the most important component for our students – so that the brand is effectively communicated outside of the school.

5.5.4.1. The "brand" slogan must appear on signage, on our school and district websites and used in our social media presence.

5.5.5. Utilize social media, technology, and connected communities to tell the school/district story, or communicate the brand.

5.5.5.1. Create school-based video content illustrating how each school embraces the district brand and makes it their own, and publish this content on school websites.

5.5.6. Encourage educators, students, and families to use their voices, take control of their stories, and begin thinking about how the school and district communities can brand their space.

5.5.6.1. Establish a new theme per month in all schools, related to our brand, and use this as a forum to publish and share the activities and projects with parents.

6. Professional Learning

Timeline:	☑2023-24 ☑2024-25 ☑2025-26
Responsible Persons:	Assistant Superintendent for Curriculum & Instruction Principals Directors
Evaluation:	> 2 point growth in each school's overall NJTRAx Digital Learning Readiness Score and Digital Implementation Score Reduction in gap to <1 point between each school's NJTRAx Digital Learning Readiness Score and Digital Implementation Score

6.1. Shared Ownership and Responsibility for Professional Growth

6.1.1. Encourage teachers, administrators, and other education professionals to be self-directed in their professional practices, using technology to optimize teaching and learning.

6.1.1.1. Enhance current professional development program formats include encourage self-direction while providing more diversity, include opportunities such as synchronous and asynchronous distance learning using Cloud based tools, and establish professional learning communities using social media resources.

6.1.2. Encourage teachers, administrators, and other education professionals to take active responsibility for their own professional growth through professional learning networks (PLNs) and online communities of practice.

6.1.2.1. Provide or guide staff members towards the appropriate type and level of training available based on the nature of the staff member's position, the scope and depth of job responsibilities and assigned tasks, as well as his/her professional interests.

6.1.3. Encourage teachers, administrators, and other education professionals to take advantage of the 24/7 access they have to collaborative tools, professional learning resources, and digital environments that may connect them locally and globally.

6.1.3.1. Continue practice of providing priority technical support to staff members engaging in educational technology initiatives, promoting heightened staff levels of comfort and autonomy in performing related tasks.

6.1.4. Offer in-house professional development opportunities that encourages, facilitates, and often requires creating and maintaining professional networks both within and outside of the district and school, frequently leveraging the latest in social media and blended learning.

6.1.4.1. Provide opportunities for teachers and administrators to share innovative educational technology initiatives through Cloud based tools, demonstrations, collaborative teaching and mentoring activities, and via videoconferencing resources.

6.1.5. Promote district policies that honor and encourage personalization of professional learning for teachers, administrators and other education professionals.

6.1.5.1. Implement "digital badge" initiative to reward staff for their engagement in professional development activities.

6.1.5.2. Design and implement incentive programs rewarding staff members with funding and other forms of recognition for engaging in innovative projects in educational technology.

6.1.5.3. Ensure policies account for the training needs of educators to implement new AI guidelines effectively.

6.1.6. Ensure that school leaders are modeling these new, technology-enabled professional learning.

6.1.6.1. Structure professional development so that it mimics how instruction should take place in the classroom.

6.2. 21st Century Skill Set

6.2.1. Encourage educators to expand their knowledge to acquire a 21st Century skill set applicable to their professional learning, their professional practices, and their classroom practices.

6.2.1.1. Modify existing staff development programs in instructional technology, emphasizing instructional methodologies and resource (district provided and privately-owned) utilization in support of 21st century themes and skills integration, to be infused across all content areas in the 2020 NJSLS Standards.

6.2.1.2. Guide educators by recommending AI teaching and learning strategies based on student needs and personalize professional development to teachers' needs, suggesting collaborative projects between subjects or teachers, and offering simulation-based training scenarios such as teaching a lesson or managing a parent/teacher conference.

6.2.2. Promote acquisition of a 21st Century skill set for education professionals that includes: experience with online and blended learning; facility with technology in curriculum and instruction, with digital assessment, with informed use of data/data analytics; and the capacity to design appropriate units for all digital learners.

6.2.2.1. Engage staff in technology-rich learning activities that promote the development of defined 21st Century skills (e.g. information, media and communications literacy) by heightening expectations for teachers, and providing proper levels of staff supervision, support and professional development.

6.2.3. Create a school culture that requires teachers and other education professionals to apply these skills as they make informed decisions related to student-centered learning, teaching, and assessment.

6.2.3.1. Align all professional development programs in information technology with ISTE National Educational Technology Standards for both Teachers and Administrators, establishing high expectations established for each group related to both participation and the mastery of concepts and skills

6.2.4. Promote professional learning that immerses educators into the learning sciences that address research-based pedagogies to leverage project based learning and authentic learning in situations that enable collaborative learning with colleagues.

6.2.4.1. Provide programs exploring digital learning projects that promote 21st Century skills, standards-based content knowledge and elements of deeper learning (e.g., critical thinking and decision-making, creativity and innovation, bi-directional communication, research and information literacy, and self-direction), and have relevance beyond the classroom walls.

6.2.5. Facilitate educator mastery of a variety of new, research-based instructional strategies to better engage all students in deeper learning and prepare them for college and beyond.

6.2.5.1. Share strategies with teachers for heightening expectations, personalizing learning experiences, leveraging technology, and making good use of assessment data in pursuit of better preparing students for college and career readiness.

6.2.6. Help educators learn to create lessons and use instructional approaches that develop their students' 21st Century skills.

6.2.6.1. Continue in-service program designed to build relationships between 21st Century Themes and interdisciplinary curriculum planning in a project-based format leading to classroom student engagement focused on the development of 21st century skills.

6.2.7. Help educators to develop collaborative pedagogical models in a supportive culture that enables them to experience negative and positive outcomes in the facilitation of learning without penalties.

6.2.7.1. Have teachers evaluate their existing instructional activities and technology projects, making revisions to enhance or transform them through the four stages of the SAMR (Substitution, Augmentation, Modification, Redefinition) Model, Bloom's Taxonomy, TPAK, and others.

6.2.8. Help educators to develop classroom management strategies for all digital learners, create safe learning environment that allows students to expand their reach, while ensuring that equipment is being used appropriately and effectively.

6.2.8.1. Continue in-service program designed to build instructional management strategies based on the design of the classroom activity, providing various simulated learning environments where teachers have hands-on with the technology resources as the instructor models and holds discussion concerning the logistics for managing the flow of the activities.

6.2.9. Help educators to develop this skill set that includes the effective use of technology, digital tools, blended learning, digital content, and social media to advance their own learning, and to coach and mentor their students.

6.2.9.1. Continue in-service program designed to foster resource management, including the selection and use of the most appropriate tools for meeting the objectives of the activity or project component, including hardware, software and online resources, as well as the proper use of content (media), distribution/collection, operation, troubleshooting, safety, etc.

6.3. Diverse Opportunities for Professional Learning

6.3.1. Model new types of professional learning and ensure that educators have access to (and the technology savvy necessary to leverage) professional development opportunities that are diverse, customizable and supported by the latest technologies.

6.3.1.1. Leverage school and district-based Innovation Committees to research and promote alternative professional development formats with individuals and small groups within the school environment.

6.3.2. Promote professional learning opportunities that use research-based pedagogies and technology (e.g., social media, professional learning networks (PLNs), Twitter feeds, EdCamps, etc.), are available anytime, anywhere in a variety of modes, and are supported through coherent district and school policies and practices.

6.3.2.1. Encourage self-direction while providing more diversity, include opportunities such as synchronous and asynchronous distance learning using Cloud based tools, and establish professional learning communities using social media resources.

6.4. Broad-Based, Participative Evaluation

6.4.1. Promote goal-oriented, self-regulated professional behaviors, by ensuring that evaluation is participative (i.e., the educator who is the subject of evaluation is actively involved in goal-setting, collecting indicators of progress, and self-evaluative behaviors).

6.4.1.1. Implement Danielson's Framework for Teaching as standard instructional model allowing both the educator and evaluator to collaborate via the iObservation management portal, to ensure proper planning, execution and reflection across all four domains.

6.4.2. Use a broad set of indicators in professional evaluation that include student achievement, evidence of improved instructional practice, student engagement, and 21st Century skill attainment.

6.4.2.1. Implement AchieveNJ Student Growth Objectives, allowing teachers to set long term academic goals for groups of students in consultation with their supervisors.

7. Budget and Resources

Timeline:	☑2023-24 ☑2024-25 ☑2025-26
Responsible Person:	Assistant Superintendent for Business Assistant Superintendent for Curriculum & Instruction
Evaluation:	> 2 point growth in each school's overall NJTRAx Digital Learning Readiness Score and Digital Implementation Score Reduction in gap to <1 point between each school's NJTRAx Digital Learning Readiness Score and Digital Implementation Score

7.1. Efficiency and Cost Savings

7.1.1. Leverage technologies that increase efficiency, cost savings and cost effectiveness.

7.1.1.1. Establish and maintain requirements with regards to purchasing guidelines, selection criteria and the process for identifying products, vendors or infrastructure so that product and vendor standardization remain a priority.

7.1.1.2. Continue to maintain "mission critical" hardware and software resources on full-feature support contracts to minimize potential downtime and obtain product upgrades as available.

7.1.1.3. Conduct routine maintenance tasks, such as the rollout of operating system patches and log monitoring, in a more automated, controlled and consistent manner, based on an established schedule, in order to enhance the district's ability to prevent or resolve trouble with its many resources.

7.1.1.4. Implement AI chatbots to help schools automate certain tasks, such as answering routine questions or providing feedback on district information.

7.1.1.5. Use AI tools to support school operations and streamline administrative processes, including scheduling courses, automating inventory management, increasing energy savings, and generating performance reports.

7.1.2. Create strategies for calculating the total cost of ownership (TCO) for all technology resources, reviewing both direct cost (e.g., costs related to equipment, devices, Internet access, boxes, wires, etc.) and indirect costs (e.g., training, technical assistance, staff time, etc.)

7.1.2.1. Examine cost and feasibility for outsourcing specific technical tasks or obtaining expertise in the implementation of technology initiatives from consultants and other technology integration agencies when necessary.

7.1.2.2. Examine cost and feasibility for employing an additional computer/network service technician in order to sustain present levels of efficiency in the performance of required maintenance and management tasks on a very large install base of equipment that has and will continue to increase at a rapid rate.

7.1.2.3. Increase the district's exploration of and participation in leasing and other creative financing programs designed to refresh obsolete technology products at a more appropriate rate.

7.2. Alignment to District– and Building-Level Strategic and Tactical Plans

7.2.1. Establish priorities for budget and resources that are clearly linked to district- and building-level strategic and tactical plans and to school improvement goals, justifying all expenditures as supportive of these plans.

7.2.1.1. Establish general requirements or objectives with regards to the process for identifying products, vendors or infrastructure that meet instructional goals - this could be in the form of purchasing guidelines, selection criteria, or references to policies and procedures.

7.2.2. Fund innovative programs conditionally upon their alignment to the district's vision and mission, thus ensuring sustainability, efficiency, and coherence with the vision.

7.2.2.1. Provide teachers with the opportunity to pitch solutions as a packaged initiative for consideration based on need in an attempt to acquire funding, especially if the request is supported by a higher-level need (e.g., NJSLS-CSDT with a 21st Century Learning emphasis).

7.2.2.2. Eliminate inequity concerning the availability of instructional technology resources deployed between buildings and/or academic departments comparatively.

7.3. Consistent funding Streams

7.3.1. Maintain budgets for digital learning programs and initiatives as part of the annual maintenance and operation budget for the district.

7.3.1.1. Continue process of annual and long-range district budget planning for the acquisition of educational products and services.
7.3.1.2. Continue to incorporate the cost of technology distribution and hardware into plans for future building renovation, retrofitting, and construction.
7.3.1.3. Increase the district's exploration of and participation in leasing and other creative financing programs designed to refresh obsolete technology products at a more appropriate rate.
7.3.1.4. Optimize pursuit of external sources of funding, manpower and expertise to secure needed educational technology resources for the district on an annual basis.
7.3.1.5. Continue to secure technology products, services and funding through participation in cooperative partnerships with external organizations, agencies and businesses.
7.3.1.6. Continue to pursue shared technology products, services and funding through enhanced participation as a cooperative partner with the Voorhees Township Community Education and Recreation (C.E.R.) program.
7.3.1.7. Continue to secure technology products, services and funding through grants, donations and revenue-generating activities.

7.3.2. Minimize reliance on grant funding or temporary sources, and integrate funding for digital learning into all budget areas where appropriate.

7.3.2.1. Utilize annual district funding sources to secure needed educational technology resources.

7.4. Learning Return on Investment

7.4.1. Ensure that all metrics for review of budget priorities are based on their demonstrated relationship to student learning goals, so the school may calculate its learning return on investment.

7.4.1.1. Pursue deliberate coordination between offices – curriculum, business, buildings and grounds, and information technology as this is vital for addressing all aspects of any initiative and achieving success - pooling

district, building and external financial resources is a byproduct of strong coordination of efforts, and a better return on our investments can be realized.

8. Empowered, Innovative Leadership

Timeline:	☑2023-24 ☑2024-25 ☑2025-26
Responsible Person:	Superintendent Assistant Superintendent for Curriculum & Instruction
Evaluation:	> 2 point growth in each school's overall NJTRAx Digital Learning Readiness Score and Digital Implementation Score Reduction in gap to <1 point between each school's NJTRAx Digital Learning Readiness Score and Digital Implementation Score

8.1. A Shared, Forward-Thinking Vision for Digital Learning

8.1.1. Create and maintain an educational program that prepares students to thrive in today's connected, fast-paced society, by engaging all students in evidence-based, deeper learning through smart uses of technology and new pedagogies.

8.1.1.1. Employ instructional methodologies integrating technology resources in the classroom to achieve local curriculum and instructional objectives in all content areas, to include the NJ Core Curriculum Content Standards and Common Core Standards.
8.1.1.2. Enhance all curricular areas, using technology as a vehicle to integrate the critical thinking, cooperative learning, and problem-solving skills into classroom activities.
8.1.1.3. Enhance all curricular areas, using technology as a vehicle to explore cultural diversity, languages, values, interests and societal differences among world communities.
8.1.1.4. Increase student proficiency in using technology to gather, analyze and present information.
8.1.1.5. Increase student participation in authentic technology infused projects using available resources, based on 21st Century themes, 2020 NJSLS Standards 8.1 Computer Science, 8.2 Design Thinking, 9.4 Career Readiness, Life Literacies, and Key Skills, as well as cross content integration.

8.1.1.6. Schedule cooperative planning between teachers and building technology specialists focusing on the development and articulation of instructional technology integration strategies, activities and methods.
8.1.1.7. Maximize the appropriate integration of technology resources in the teaching-learning process (including privately-owned devices where allowed) within all content areas based on relevant research, providing equal access to all students regardless of gender, race, national origin, socio-economic status, religious affiliation and special needs or disabilities.
8.1.1.8. Increase student participation in global distance learning activities while educating students about appropriate online behavior, interactions in social networking sites, and cyber bullying awareness.
8.1.1.9. Increase student participation in authentic technology infused projects using available resources, based on 21st Century themes, 2020 NJSLS Standards 8.1 Computer Science, 8.2 Design Thinking, 9.4 Career Readiness, Life Literacies and Key Skills, as well as cross content integration.
8.1.1.10. Engage students in technology-rich learning activities that promote the development of defined 21st Century skills (e.g. information, media and communications literacy) by heightening expectations for teachers, and providing proper levels of staff supervision, support and professional development.
8.1.1.11. Incorporate online safety concepts and skills into student instructional activities at each grade level, as appropriate.

8.1.2. Engage all students, teachers, administrators, parents, and the community in the envisioning of a transformed education system that personalizes learning for all students through the effective uses of technology.

8.1.2.1. Form “Innovation Committee” to examine different instructional models that would allow us to move towards the reinvention of some of our current processes, explore devices and applications that offered great opportunities for teaching and learning in a personalized setting, compare the adoption rates for different users and how to leverage that dynamic in professional development planning, and revisit and adopt a more formalized strategic planning process in our activities going forward.

8.1.3. Articulate and share this vision for digital learning both internally and externally.

8.1.3.1. Leverage Innovation Committee to begin the process of transforming the culture for our learning environments, articulating a vision for how instruction should look, and craft a new mission statement relevant to the vision upon which to build.

8.1.3.2. Share AI-oriented policy drafts with community to explain intentions and address concerns in order to establish trust.

8.2. A Culture of Collaboration, Innovation, Capacity Building, and Empowerment

8.2.1. Establish a collaborative culture of innovation in which leaders at all levels are empowered to innovate.

8.2.1.1. Convene Innovation Committee meetings where administrators and staff share ideas and learn about best practices, discuss, create and plan opportunities to transform instruction, evolve professional development options, enhance communication and collaborative efforts among staff, explore new technologies, and gather information via surveys for future planning purposes.

8.2.1.2. Engage local educators, parents, students, and community members to gather feedback and insights in the creation of goals for AI implementation, to include increasing awareness, building community and capacity, and guiding policy.

8.2.1.3. Clearly define the roles and responsibilities of educators and administrators when using AI for accountability; including oversight and decision-making.

8.2.2. Restructure the school within this culture to bring the vision to life.

8.2.2.1. Spawn school-based Innovation Committees in order to address issues, set goals and pilot smaller initiatives relevant to each individual school - reduce the larger committee to school representatives that would serve as liaisons for sharing results of the efforts of the smaller groups.

8.2.2.2. Reinforce, and communicate the evolving nature of the role of each school's existing “technology specialist” position toward that of a technology support, curriculum and instructional facilitator and resource person.

8.2.3. Maximize the capacity of leaders to innovate through a culture of trust and respect, providing leaders with the flexibility and adaptability they require to lead.

8.2.3.1. Include at least one Digital Learning and 21st Century Skills oriented goal statement each year as an established district goal.

8.2.3.2. Include Digital Learning focus in annually established administrator SMART Goals, Student Growth Objectives and Professional Development Plan.

8.2.3.3. Continue active membership and participation in school- and district-based Innovation Committee initiatives.

8.3. High Expectations for Evidence-Based Transformations to Digital Learning

8.3.1. Expect teachers, administrators, and students across the district to show progress toward the district vision for 21st Century digital learning.

8.3.1.1. Identify legitimate performance expectations for using the productivity tools available to administrative, teaching & support staff.
8.3.1.2. Implement technology in ways that help all administrators, staff members and students better manage data, communicate and collaborate effectively.
8.3.1.3. Increase administrator, staff members and student access to online productivity resources in each building by providing demonstrations and training, modifying schedules, reorganizing resource availability, and promoting use of privately-owned devices as appropriate.
8.3.1.4. Identify legitimate performance expectations for using the information management systems available to administrators, staff members and students.
8.3.1.5. Identify legitimate performance expectations for using the communications and collaborative systems available to administrators, staff members and students.

8.3.2. Establish metrics for gauging such progress and work across the district to monitor progress and to use evidence-based decision making to ensure that technologies are implemented in ways that advance the vision.

8.3.2.1. Manage teacher performance evaluations based on an established framework using an online management portal, providing classroom walkthrough data analysis and reflection, live observation, data collection and reporting tools.
8.3.2.2. Assess student technological skills proficiency at the conclusion of each technology-infused project using an appropriate rubric or checklist and manage using grade book software as well as the school's student information system.
8.3.2.3. Maintain digital portfolio for each student in grades 3-8, archiving completed technology projects as evidence of technological skills proficiency.
8.3.2.4. Report technological literacy status (NJSMART) for each 8th grade student based on longitudinal data maintained using the district's student assessment and reporting instrument and evidence observed in each student's digital portfolio.

8.3.2.5. Participate annually in the NJTRAx Digital Learning Readiness surveys to obtain and compare results regarding Overall Digital Readiness and Overall Digital Implementation.
8.3.2.6. Collaborate with other school districts or educational institutions to share best practices and insights on using generative AI.

8.4. Transformative, Coherent Thinking, Planning, Policies, and Implementation

8.4.1. Advanced the district's forward-thinking vision through leaders' transformative thinking.

8.4.1.1. Promote an environment of professional learning and innovation that empowers educators to enhance student learning through the infusion of contemporary technologies and digital resources.
8.4.1.2. Lead purposeful change to maximize the achievement of learning goals through the appropriate use of technology and media-rich resources.
8.4.1.3. Promote and model effective communication and collaboration among stakeholders using digital age tools

8.4.2. Promote leadership that ensures that the district's policies are coherence with the philosophy underpinning the vision (e.g., personalizing professional learning for education professionals, just as they personalize learning for students).

8.4.2.1. Promote and participate in local, national, and global learning communities that stimulate innovation, creativity, and digital age collaboration.
8.4.2.2. Stay abreast of educational research and emerging trends regarding effective use of technology and encourage evaluation of new technologies for their potential to improve student learning.
8.4.2.3. Facilitate and participate in learning communities that stimulate, nurture and support administrators, faculty, and staff in the study and use of technology.
8.4.2.4. Prioritize professional development related to AI for all staff and bring together individual educators' experiences with AI to document successes, identify gaps, and build collective organizational knowledge and capacity.
8.4.2.5. District leadership is responsible for providing resources, guidance, and support for the implementation of the AI policy, while administrative staff is responsible for ensuring that AI technologies are used in compliance with the policy, including data privacy and security policies.

8.4.3. Develop strategic plans that map potential pathways to the district's preferred future, create the tactical and financial plans and dedicated budget necessary for implementation, then monitor, adjust, build capacity, and experience incremental improvement.

8.4.3.1. Collaborate to establish metrics, collect and analyze data, interpret results, and share findings to improve staff performance and student learning.
8.4.3.2. Recruit and retain highly competent personnel who use technology creatively and proficiently to advance academic and operational goals.
8.4.3.3. Establish and leverage strategic partnerships to support systemic improvement.
8.4.3.4. Establish and maintain a robust infrastructure for technology including integrated, interoperable technology systems to support management, operations, teaching, and learning.
8.4.3.5. Embrace AI-based education research, as AI-powered algorithms can analyze vast amounts of data on student learning patterns, instructional strategies, and academic outcomes, providing insights that can inform evidence-based decision-making in education policy and practice.

Technology for Digital Learning - School Action Plans

This portion of this document represents the course that **each individual school** in the Voorhees Township School District is planning to focus on digital learning transformation over the next three years based on 2018-19 Digital Learning Survey results (NJTRAx 2019-20 survey was not conducted due to the COVID-19 pandemic). These Digital Learning Summary Reports are too lengthy for inclusion here, but relevant data is shared. The full report for each school is available on the district website (http://www.voorhees.k12.nj.us/Page/82984). Future Ready Schools – NJ Gap Analysis data was incorporated as well, as both NJTRAx and FRS-NJ initiatives complement each other in our efforts to pursue data collection and self-assessment.

School-based **Goals**, **Strategies**, **Objectives** and **Indicators** are included for each school. A **Reflection and Adjustment Plan** is also included, as well as a school-based **Budget** to support activities in the **Action Plan**.

E. T. Hamilton Elementary School Technology Plan for Digital Learning 2023-26

Infrastructure

NJTRAx Technology Readiness completed during current school year.

Date: 6/30/2023 Rating: 9.0

Teaching and Learning

NJTRAx Digital Learning Readiness completed during current school year.

Date: 6/30/2023 Rating: 7.6

NJTRAx Survey 2022-23

Based on the NJTRAx Survey from the 2022-23 school year and the Future Ready-NJ Bronze Certification Top Indicators Needs for Improvement Results, we have identified 3 areas to be addressed in E. T. Hamilton School's three-year Technology Plan for Digital Learning. These goals have been developed in accordance with the results from the survey which was taken by 5th grade students, teachers, parents, technology coordinators and administrators. The plan includes the following areas targeted for improvement.

Gear: Curriculum, Instruction, and Assessment (Readiness Score: 9.1, Implementation Score: 7.6)
The readiness score suggests that we are prepared for personalized learning, but we should continue to improve the implementation level which indicates that more opportunities for personalized learning must be provided.

Gear: Professional Learning (Readiness Score 7.9)
Technology and digital learning provide increased professional learning opportunities for educators. These resources allow teachers and administrators to collaborate, learn, and share with colleagues globally. Such opportunities ultimately lead to higher student success and create a deeper understanding of the skills needed for student success in the digital age.

Gear: **Community Partnerships** (Global & Cultural Awareness Readiness Score 7.7, Implementation Score 6.0)

Survey results show that although we scored a 7.6 on a readiness level, our implementation rate demonstrates an inconsistency in providing opportunities. Community partnerships allow for learning to extend past the confines of classroom walls and tap into experts, organizations and other students globally. Students learn to value diversity and better understand cultures and communities other than their own. Our school community's population is diverse, and our community partnerships should reflect this. Building community partnerships is also essential for successful schools as greater parent/community involvement is linked to higher student achievement.

Future Ready Schools – NJ Bronze Certification 2018-19

E. T. Hamilton "Top 5" indicators that need to be addressed based on gap analysis:

1. **Indicator: Student Choice** - Exemplary - (Addressed with 21st Century Training)
2. **Indicator: Student-Driven, Self-Directed Learning** - Exemplary - (Addressed with 21st Century Training)
3. **Indicator: Personal Learning Network** - Insufficient - (Needs to be a district/building goal, staff members need to show growth in a hybrid personal network- see attached FR Indicator sheet, concerned that we will be able to do this by the end of the 2023-2026 - 3-year technology plan)
4. **Indicator: Professional Learning Plan** - Foundational - (Needs to be a district/building goal, all staff members need to be involved - see attached FR Indicator sheet, concerned that we will be able to do this by the end of the 2023-2026 - 3-year technology plan)
5. **Indicator: Ongoing Reflection and Refinement** - Achieving - (Needs to be a district/building goal - see attached FR Indicator sheet, concerned that we will be able to do this by of the 2023-2026 - 3-year technology plan)

Technology Plan	Details
Goal 1:	Foster an environment of student-driven, self-directed learning which will empower students with more choice and control of their learning experiences Curriculum, Instruction, and Assessment (Readiness Score: 8.0, Implementation Score: 7.0)
Strategies:	Student-Driven, Self-Directed Learning Activities Ensure that students and parents know about digital learning opportunities provided by the school during and after school hours Provide a variety of 21st Century tools for student choice Increase opportunities for student-driven learning activities

Objective(s): Address 7.0 for Curriculum, Instruction and Assessment Implementation Score: Student-Driven, Self-Directed Learning activities with alignment to Future Ready Goals. Teacher and staff will encourage 21st century student-driven, self-directed learning activities.

FRS Theme: Education Classroom and Practice

FRS Gear: Curriculum, Instruction and Assessment

FRS Indicator: Student-Driven, Self-Directed Learning

Evidence of Success: 21st century student-driven, self-directed learning activities will be implemented within the Hamilton classrooms.
Monitor usage of district-used digital learning resources and subscriptions
Examples of student-driven, self-directed learning examples
Surveys

Action Plan			
Activities	**Individual(s) Responsible**	**Resources**	**Timeline**
Design lesson plans with student-driven, self-directed learning utilizing 21st century tools (Google tools)	Administrators, teachers, staff	Web resources, Google tools, hardware Digital Learning Resources and Subscription Information	3 years
Students creating and utilizing multimedia presentations, webpages, and collaborative tools with Google and 21st century tools	Administrators, Students, teachers, and staff	Hardware, software, Google tools, videos & web resources	3 years
Continue to increase knowledge, and understandings collaborative tools, drives, activities	Administrators, Students, teachers, staff & collaboration	Google tools, videos & web resources PLNs, Innovation Committee, and Trainings	3 years

Technology Plan Details

Goal 2: Increase Professional Learning Networks within District and Globally Professional Learning (Readiness Score 7.9)

Strategies: Network with professional learning communities

Objective(s): Staff connects and collaborates within district members, members of other districts, and experts from other fields to build a hybrid (virtual & face to face) personal learning network

FRS Theme: Education Classroom and Practice

FRS Gear: Personalized Professional Learning

FRS Indicator: Personal Learning Network

Evidence of Success: Staff documents connection and collaboration within district members, members of other districts, and experts from other fields to build a hybrid (virtual & face to face) personal learning network

Action Plan for Goal 2			
Activities	**Individual(s) Responsible**	**Resources**	**Timeline**
Attend workshops, webinars, professional communities in & out of district	Administrators, teachers, staff, stakeholders	Web Resources and workshops	3 years
Teachers log hrs. Of PLN and communicate with other teachers & staff	Teacher and staff	PLN Meetings	3 years
Continue to increase knowledge, and understandings of Personal Learning Networks to enhance the curriculum and professional growth	Administrators, teachers, staff, stakeholders	Web resources, Google Educator, Learning Communities, Microsoft Learning Communities, Webinars, edWeb	3 years

Technology Plan Details

Goal 3: Create deeper community partnerships by increasing formal and informal connections to local and global communities
Community Partnerships (Global & Cultural Awareness Readiness 7.7; Implementation Score 6.0)

Strategies: Communicate with parent groups and stake holders in the community.
Provide increased access to resources which foster community partnerships
Encourage professional conversation and reflection revolving community partnerships
Share experiences at faculty, grade level, and innovation meetings

Objective(s): Engage with parent group meetings, communicate with public relationship staff, post on social media sites, utilize school messenger, post to school websites, presentations to Bd. Of Ed. Meetings.
Increase access and training on videoconferencing
Increase teacher memberships in education-based global communities
Provide activity summaries to be publicized in papers, website, and social media

FRS Theme: Leadership and Educations and Practice

FRS Gear: Community Partnership and Personalized Professional Learning

FRS Indicator: Communicating and Celebrating 21st Century Learning, Community Joint Activity Planning

Evidence of Success: Surveys, Google Meet, videos, multimedia presentations, & web resources. Technology standards forms completed by teachers to be held on file in the computer lab

Action Plan for Goal 3			
Activities	**Individual(s) Responsible**	**Resources**	**Timeline**
Surveys, Meet, videos, multimedia presentations, and web resources Formal and informal professional conversations about the importance of community partnerships Provide activity summaries to be publicized in papers, website, and social media	Administrators, teachers, staff – all educational Community Stakeholders	Web Resources, software, hardware Parent Group Chamber of Commerce Innovation Committee	3 years
Students creating multimedia presentations relating to cultural awareness, stem activities & communities. Students will utilize 21st century tools such as Google Meet, webcasts to gain knowledge and understanding about culture & communities. Students will all communicate with parents & the community.	Students, teachers, staff, & community	Hardware, software, & web resources	3 years
Continue to increase knowledge, and understandings about culture & communities, stem activities	Students, teachers, staff & community, & social media collaboration	Google tools, videos & web resources	3 years

Professional Learning Plan		
Goal #	**Initial Activities**	**Follow-Up Activities**
1	Research student-driven, student-directed learning activities	Survey students about collaboration with student-driven, student-directed activities and the 21st century projects are published
2	Identify what curriculum workshops & webinars are available	Log workshops, webinars attended
3	Reach out to community & teachers for needs & suggestions	Follow up with Google tools & distance learning activities

Reflection and Adjustment Plan		
Goal #	**Initial Activities**	**Follow-Up Activities**
1	Share projects utilizing Google Tools (Classwork)	Add STEM activities where possible
2	Meet on grade level to share workshops & webinars	Research online educational communities
3	Observe cultural awareness, stem activities, conduct survey	Reach out to community resources

Budget			
Goal #	**Activity**	**Funding Source (Federal/State/Private/District)**	**Amount**
1	Student-drive, student directed learning activities utilizing 21st century tools	District & building	TBD
2	Workshops & webinars	District, building, Parent groups	TBD
3	District learning activities with global & cultural awareness and stem activities	District learning communities and STEM	TBD

Kresson Elementary School - Technology Plan for Digital Learning 2023-26

Infrastructure

NJTRAx Technology Readiness completed during current school year.

Date: 6/30/2023 Rating: 9.0

Teaching and Learning

NJTRAx Digital Learning Readiness completed during current school year.

Date: 6/30/2023 Rating: 8.2

Brief reflection based on NJTRAx survey data and multi-year comparisons.

Based on the NJTrax Survey from the 2022-23 school year, we have identified 3 areas to be addressed in Kresson Elementary School's Technology Plan for Digital Learning. These goals have been developed in accordance with the results from the survey which was taken by 5th grade students, teachers, parents, technology coordinators and administrators. The plan includes the following areas targeted for improvement.

Gear: Curriculum, Instruction and Assessment (Readiness Score: 8.4, Implementation Score: 7.4)
Our readiness score indicates we have the tools/ technology and high-quality content in place. However, survey results show a discord between our readiness and implementation within this gear. This suggests a need to offer students more customized instruction, opportunities to personalize, and actively have a voice in their educational experience. As a result, students will become independent thinkers able to meet and exceed the challenges of our ever-changing global society.

Gear: Professional Learning (Readiness Score: 8.1) * Please note there is no implementation score as this Gear does not directly impact students.
Kresson School has shown improvement in this gear. However, we feel revisiting it enables us to continue a focused effort on embedding a culture of shared leadership through professional learning and reflection which are key factors to a successful school community.

Technology and digital learning provide increased professional learning opportunities for educators. These resources allow teachers and administrators to collaborate, learn, and share with colleagues globally. Such opportunities ultimately lead to higher student success and create a deeper understanding of the skills needed for student success in the digital age.

Gear: Community Partnerships (Readiness Score: 8.2, Implementation Score: 6.2)
Community partnerships, which include the formal and informal local and global community, ensures more relevant, organic and authentic learning opportunities for all participants. Through the use of digital communications, online communities, and digital learning environments, students learn and value diversity, and better understand cultures and communities other than their own.

Brief reflection based on FRS-NJ experience and gap analysis.

Based on a gap analysis of our FRS-NJ Schools results (2018 - Bronze Level), we have identified several areas to be addressed in Kresson School's 3-year Technology Plan for Digital Learning.

Indicator(s): Student Choice and Student-Driven, Self-Directed Learning (Achieving, Achieving)
Placing students at the center of learning and harnessing their curiosity through providing authentic learning opportunities fosters a mindset of life-long learning and prepares students for success in the ever-changing global world.

Indicator: Personal Learning Network (Achieving)
A PLN encourages and supports opportunities for educators to connect with a world outside of their own classroom, to enhance perspective, embrace diversity, and build best practice skill sets. This supportive community cultivates a collaborative spirit that supports personal and professional growth.

Indicator: Ongoing Reflection and Refinement (Achieving)
Ongoing reflection and refinement leads to shared ownership of professional development and growth, as well as, improved professional learning networks.

Indicator: Professional Learning to Support Integrated Instruction (Exemplary)
It's essential for schools to provide ongoing opportunities for staff to interact with, participate, and navigate the world both locally and globally in order to bring these opportunities into their classroom

Indicator: Local and Global Outreach (Exemplary)
Fostering an environment rich in local and global partnerships is essential in order for students to experience learning that is more authentic and relevant. They must possess the ability to navigate the world embracing and celebrating cultural differences both locally and globally.

Technology Plan	Details
Goal 1:	Foster an environment rich with opportunities for students to personalize and reflect on their own learning through student choice, student-driven and self-directed learning activities.
Strategies:	Increase student exposure to classroom models such as flipped, blended, and inquiry-based learning Utilize Google Suite for Education Apps Introduce students to voice/choice applications Publicize online learning opportunities that extend beyond the typical school day
Objective(s):	Provide documentation and support for parents on digital learning resources and subscriptions available to students during and after school hours. Conduct ongoing and authentic turnkey training on student driven learning Provide opportunities for teachers to observe colleagues providing lessons rich in student driven activities
FRS Theme:	**Education and Classroom Practice**
FRS Gear:	**Curriculum, Instruction, and Assessment** and **Use of Time and Space**

FRS Indicator(s): **Student Driven, Self-Directed Learning** and **Student Choice**

Evidence of Success:
Monitor usage of district-used digital learning resources and subscriptions
Teacher submitted lesson plans reflecting activity choice
Surveys
Celebrate successes during faculty meetings
Professional development Sign-in sheets

Action Plan for Goal 1			
Activities	**Individual(s) Responsible**	**Resources**	**Timeline**
Research best practice - student driven/self-directed learning	Teachers, Technology Specialist	Webinars, Professional Readings, PLN, Professional Conferences	Ongoing Years 1-3
Disseminate login credentials to teachers, parents, and students for all digital learning resources and subscriptions	District Technology Team	Digital Learning Resources and Subscription Information	Ongoing Years 1-3
Design lessons with student-driven, self-directed learning opportunities utilizing 21st Century tools	Administrators, Teachers, and Staff	Hardware, Software, Web Resources	Ongoing Years 1-3
Collaborate on student-driven, self-directed learning best practices	Administrators, Teachers, and Staff	PLN, Innovation Committee, Trainings	Ongoing Years 1-3
Provide release time for classroom observation between colleagues	Administrators, Teachers, and Staff	Teachers (Across the District)	Ongoing Years 1-3

Technology Plan Details

Goal 2: Provide teachers with authentic professional learning opportunities through increased technology and digital experiences

Strategies:
Design 21st Century district training to be more authentic by moving away from the "sit and get" model of professional development
Encourage shared ownership and responsibility for professional development through PLNs
Encourage peer to peer lesson sharing

Objective(s): Staff connects and collaborates with educators locally and globally both formally and informally
Increase access to PLN communities
Provide ongoing in-house turnkey training

FRS Theme: **Education and Classroom Practice**

FRS Gear: **Personalized Professional Learning**

FRS Indicator(s): **Personal Learning Network**, **Ongoing Reflection and Refinement**

Evidence of Success: Documentation of staff professional development hours
Professional certificates
Shared PGP Reflection Logs
Professional development feedback forms

Action Plan for Goal 2			
Activities	**Individual(s) Responsible**	**Resources**	**Timeline**
Attend workshops, webinars, and participate in other digital networking experiences	Administrators, Teachers, Technology Specialist	Workshops, Webinars, and Digital Learning Networks	Ongoing Years 1-3
Plan district-wide 21st Century training to reflect needs and best practices for professional development	District Technology Team	Planning Time Surveys	Ongoing Years 1-3
Lesson plan sharing with collaboration and professional conversation opportunities	Administrators, Teachers	Planning Time	Ongoing Years 1 - 3
Collaborate and reflect upon professional development opportunities	Administrators, Teachers, and Staff	PLNs	Ongoing Years 1-3

Technology Plan Details

Goal 3: Create deeper community partnerships by increasing formal and informal connections to local and global communities

Strategies: Encourage teacher buy-in by showing the importance of community partnerships
Provide increased access to resources which foster community partnerships

Celebrate and publicize successes, identify areas for growth opportunities
Encourage professional conversation and reflection revolving around community partnerships
Eliminate communication barriers through building transparent and trusting relationships between school and community
Locate and encourage local/global community service projects

Objective(s):

Increase access to training and equipment for more authentic real-time interactions with local and community participants
Provide activity summaries/pictures to be publicized on social media, websites, newspapers
Share successes in faculty meetings and community attended meetings
Utilize local and global community members for presentations and demonstrations

FRS Theme: **Education and Classroom Practice** and **Leadership**

FRS Gear: **Community Partnerships**

FRS Indicator(s): **Authentic Learning** and **Local and Global Outreach**

Evidence of Success:

Surveys
Community Event Documentation/Planning Notes (STEAM Fair, Book Walk)
Retain copies of submissions of activity summaries and pictures to local paper/social media and BOE presentations
Celebrated successes during faculty meetings

Action Plan for Goal 3			
Activities	**Individual(s) Responsible**	**Resources**	**Timeline**
Virtual Presentations/Video Conferencing with Google Meet, Skype and Empatico	All Educational Community Stakeholders	Microsoft Educator Local Area Chamber of Commerce Community Volunteers Empatico.org	Ongoing Years 1-3
Kresson Book Walk (Collaboration between school and community)	Principal, Teachers, Students, Parents	Parent Volunteers	Ongoing Years 1-3
Formal and informal professional conversations about importance of Community partnerships	All Educational Community Stakeholders	Parent Group Chamber of Commerce	Ongoing Years 1-3
Kresson STEAM Fair (Collaboration between School and Community)	All Educational Community Stakeholders, EP Teacher, Technology Spec	Community Volunteers Community Businesses Parent Group	Ongoing Years 1-3
Students to use 21st Century tools to gain knowledge and understanding about communities and cultures	All Educational Community Stakeholders	Hardware, Google Apps, Microsoft Apps. Web Resources	Ongoing Years 1-3

Professional Learning Plan		
Goal #	**Initial Activities**	**Follow-Up Activities**

1	Collaborate with teachers to research and develop student-driven, self-directed learning activities Provide log in information for digital resources and subscriptions Survey teachers to find out if current resources are meeting the needs of their students	Survey students about their opportunities for student-driven, self-directed learning; share activities through publication Research tools within existing resources for optimal usage Research new resources, if necessary
2	Attend workshops, conferences, webinars and make connections through online PLNs	Plan and implement experiences to enhance school and district trainings Collaborate on training models and professional development opportunities for all staff
3	Attend workshops and webinars and make connections through digital resources	Turnkey information in mini workshops, at innovation and staff meetings, and informal conversations with all stakeholders

Reflection and Adjustment Plan		
Goal #	**Initial Activities**	**Follow-Up Activities**
1	Professional conversations with administrators and teachers; celebrate successes and identify areas for growth opportunities	Adjust projects/activities based on feedback and results of technology surveys Research new resources, if necessary, arrange for demos, and obtain quotes
2	Professional conversations with administrators and teachers; celebrate successes and identify areas for growth opportunities	Adjust training models and opportunities, as necessary Research new PLN opportunities based on feedback
3	Professional conversations with administrators and teachers; celebrate successes and identify areas for growth opportunities	Adjust plans accordingly through the reflection of both formal and informal conversations with all stakeholders

Budget			
Goal #	**Activity**	**Funding Source (Federal/State/Private/District)**	**Amount**
1	Professional learning experiences- Workshops, Conferences, Turnkey Opportunities, Webinars, PLN Communities	School and District and Budgets when needed	TBD
2	Professional learning experiences focused on educator professional development	School and District Budgets when needed	TBD
3	Seek and attend opportunities rich in building relationships both locally and globally	School and District Budgets when needed	TBD

Osage Elementary School - Technology Plan for Digital Learning 2023-26

Infrastructure

NJTRAx Technology Readiness completed during current school year.

Date: 6/30/2023 Rating: 9.0

Teaching and Learning

NJTRAx Digital Learning Readiness completed during current school year.

Date: 6/30/2023 Rating: 8.0

NJTRAx Survey 2022-23

Based on the NJTRAx Survey from the 2022-23 school year, we have identified 3 areas to be addressed in Osage School's three-year Technology Plan for Digital Learning. These goals have been developed in accordance with the results from the survey which was taken by 5th grade students, teachers, parents, technology coordinators and administrators. The plan includes the following areas targeted for improvement.

Gear: Community Partnerships (Readiness Score: 7.7, Implementation Score 6.4)
Survey results show that although we scored a 7.5 on a readiness level, our implementation rate demonstrates an inconsistency in providing opportunities. Community partnerships allow for learning to extend past the confines of classroom walls and tap into experts, organizations and other students globally. Students learn to value diversity and better understand cultures and communities other than their own. Our school community's population is quite diverse, and our community partnerships should reflect this. Building community partnerships is also essential for successful schools as greater parent/community involvement is linked to higher student achievement.

Gear: Curriculum, Instruction, and Assessment (Readiness Score: 8.3, Implementation Score 7.1)
The readiness score suggests that we are prepared for personalized learning, but the implementation level indicates that more opportunities for personalized learning must be provided.

Gear: Professional Learning (Readiness Score: 7.6)
Technology and digital learning provide increased professional learning opportunities for educators. These resources allow teachers and administrators to collaborate, learn, and share with colleagues globally. Such opportunities ultimately lead to higher student success and create a deeper understanding of the skills needed for student success in the digital age.

Future Ready Schools – NJ Bronze Certification 2018-19

Based on the FRS-NJ Bronze Certification experience during the 2018-2019 school year, we have identified 3 areas to be addressed in Osage School's three-year Technology Plan for Digital Learning. These goals have been developed after a gap analysis performed by Osage's Innovation Committee that includes teachers, the technology specialist, and administrators.

Indicator: Communicating and Celebrating 21st Century Learning (Achieving)
The results indicate that our school has room to grow by continuing to foster a relationship with community partners to advance the school's learning goals beyond the walls of the school and extend our understanding and appreciation of diversity.

Indicator: Student-Driven, Self-Directed Learning (Exemplary)
Although we received an exemplary score in this area, we feel that student-driven, self-directed learning requires continued focus to increase the level of implementation throughout the school.

Indicator: Ongoing Reflection and Refinement (Achieving)
Ongoing reflection and refinement leads to shared ownership of professional development and growth, as well as, improved professional learning networks.

Technology Plan

Goal 1:	Create deeper community partnerships by increasing formal and informal connections to local and global communities
Strategies:	Provide increased access to resources which foster community partnerships Encourage professional conversation and reflection revolving community partnerships Share experiences at faculty, grade level, and innovation meetings
Objective(s):	Increase access and training on videoconferencing Increase teacher memberships in education-based global communities Provide activity summaries to be publicized in papers, website, and social media
FRS Theme:	Education Classroom and Practice
FRS Gear:	Personalized Professional Learning
FRS Indicator:	Communicating and Celebrating 21st Century Learning
Evidence of Success:	Technology standards forms completed by teachers to be held on file in the computer lab Surveys

Action Plan for Goal 1			
Activities	**Individual(s) Responsible**	**Resources**	**Timeline**
Formal and informal professional conversations about the importance of community partnerships	All Educational Community Stakeholders	Parent Group Chamber of Commerce	Ongoing Years 1 - 3

Provide activity summaries to be publicized in papers, website, and social media	Administrators, Teachers, and Staff	Innovation Committee	
Make connections through webinars, workshops, and other networking experiences	Administrators, Teachers, and Staff	Webinars, Workshops, and Networking Experiences	Ongoing Years 1 - 3
Students will utilize 21st Century tools to gain knowledge and understanding about communities and cultures Students will create multimedia projects to communicate with the community	Students, Administrators, Teachers, Staff, and Community	Hardware, Software, Web Resources	Ongoing Years 1 - 3

Technology Plan	Details
Goal 2:	Foster an environment of student-driven, self-directed learning which will empower students with more choice and control of their learning experiences
Strategies:	Ensure that students and parents know about digital learning opportunities provided by the school during and after school hours Provide a variety of 21st Century tools for student choice Increase opportunities for student-driven learning activities
Objective(s):	Encourage 21st Century, student-driven, self-directed learning activities Ensure teachers, students, and parents are aware of digital learning resources and subscriptions available to them Provide teacher-led turnkey training on student-driven learning
FRS Theme:	Education Classroom and Practice
FRS Gear:	Curriculum, Instruction, and Assessment
FRS Indicator:	Student-Driven, Self-Directed Learning
Evidence of Success:	Monitor usage of district-used digital learning resources and subscriptions Examples of student-driven, self-directed learning examples Surveys

Action Plan for Goal 2			
Activities	**Individual(s) Responsible**	**Resources**	**Timeline**
Disseminate login credentials to teachers, parents, and students for all digital learning resources and subscriptions	District Technology Team	Digital Learning Resources and Subscription Information	Ongoing Years 1 - 3
Design lessons with student-driven, self-directed learning	Administrators, Teachers, and Staff	Hardware, Software, Web Resources	Ongoing Years 1 - 3

opportunities utilizing 21st Century tools			
Collaborate on student-driven, self-directed learning best practices	Administrators, Teachers, and Staff	PLNs, Innovation Committee, and Trainings	Ongoing Years 1 - 3

Technology Plan	Details
Goal 3:	Provide teachers with authentic professional learning opportunities through increased technology and digital experiences
Strategies:	Design 21st Century district training to be more authentic by moving away from the "sit and get" model of professional development Encourage shared ownership and responsibility for professional development through PLNs
Objective(s):	Staff connects and collaborates with educators locally and globally
FRS Theme:	Education Classroom and Practice
FRS Gear:	Personalized Professional Learning
FRS Indicator:	Ongoing Reflection and Refinement
Evidence of Success:	Documentation of staff professional development

Action Plan for Goal 3			
Activities	**Individual(s) Responsible**	**Resources**	**Timeline**
Attend workshops, webinars, and participate in other digital networking experiences	Administrators, Teachers, and Staff	Workshops, Webinars, and Digital Learning Networks	Ongoing Years 1 - 3
Plan district-wide 21st Century training to reflect needs and best practices for professional development	District Technology Team	Planning Time Surveys	Ongoing Years 1 - 3
Collaborate and reflect upon professional development opportunities	Administrators, Teachers, and Staff	PLNs	Ongoing Years 1 - 3

Professional Learning Plan		
Goal #	**Initial Activities**	**Follow-Up Activities**
1	Attend workshops and webinars and make connections through digital resources	Turnkey information in mini workshops, at innovation and staff meetings, and informal conversations with all stakeholders
2	Collaborate with teachers to research and develop student-driven, self-directed learning activities	Survey students about their opportunities for student-driven, self-directed learning; share activities through publication

	Provide log in information for digital resources and subscriptions Survey teachers to find out if current resources are meeting the needs of their students	Research tools within existing resources for optimal usage Research new resources, if necessary
3	Attend workshops, webinars, etc. Professional conversation with district technology team	Plan and implement experiences to enhance school and district trainings Collaborate on training models and professional development opportunities for all staff

Reflection and Adjustment Plan		
Goal #	**Initial Activities**	**Follow-Up Activities**
1	Professional conversations with administrators and teachers; celebrate successes and view failures as learning opportunities	Utilize suggestions in future activities and adjust accordingly
2	Professional conversations with administrators and teachers; celebrate successes and view failures as learning opportunities	Adjust projects/activities based on feedback and results of technology standards Research new resources, if necessary, arrange for demos, and obtain quotes
3	Professional conversations with administrators and teachers; celebrate successes and view failures as learning opportunities	Adjust training models and opportunities, as necessary Research new PLN opportunities based on feedback

Budget			
Goal #	**Activity**	**Funding Source (Federal/State/Private/District)**	**Amount**
1	Acquire equipment and resources for increased opportunity for global connections	District Budget, School Budget, and CER	TBD
2	Professional learning experiences focused on student-driven, self-directed activities Acquire equipment and resources	District Budget, School Budget, and CER	TBD
3	Professional learning experiences focused on educator professional development	District Budget and School Budget	TBD

Signal Hill Elementary School - Technology Plan for Digital Learning 2023-26

Infrastructure

NJTRAx Technology Readiness completed during current school year.

Date: 6/30/2023 Rating: 9.0

Teaching and Learning

NJTRAx Digital Learning Readiness completed during current school year.

Date: 6/30/2023 Rating: 7.6

NJTRAx Survey 2022-23

Based on the NJTRAx Survey from the 2022-23 school year, we have identified 3 areas to be addressed in Signal Hill School's three-year Technology Plan for Digital Learning. These goals have been developed in accordance with the results from the survey which was taken by 5th grade students, teachers, parents, technology coordinators, and administrators. The plan includes the following areas targeted for improvement.

Gear: Professional Learning (Readiness Score: 6.9, Implementation score: None. This Gear does not directly impact students)
The readiness score highlights the need to provide increased professional learning opportunities for teachers to collaborate, learn, share, and produce best practices with colleagues in school buildings and across the country. Access to local and global high-quality resources will ultimately lead to student success and create a broader understanding of the skills that comprise success in the digital age.

Gear: Curriculum, Instruction, and Assessment (Readiness Score: 8.4, Implementation Score 6.3)
The readiness score proves we have the curriculum, instruction, and vision to provide personalized learning, however the implementation score points to the need to provide more customized opportunities for students. Providing a choice and a voice encourages students reflect on their work, to think critically, and to gain a deeper understanding of complex topics leaving them well prepared for college or alternative paths to workplace readiness.

Gear: Community Partnerships (Readiness Score: 7.6, Implementation Score: 5.6)
The 2-point R-I gap shows there is a disconnect in providing opportunities that allow for learning to extend past the confines of classroom walls, tapping into experts, organizations and other students globally. Providing student access to online communities and digital learning environments will help students learn and value diversity, and better understand cultures and communities other than their own.

Future Ready Schools – NJ Bronze Certification 2018-19

Based on the FRS-NJ Certification process during the 2018-2019 school year, we have identified 4 areas to be addressed in Signal Hill School's three-year Technology Plan for Digital Learning. These goals have

been developed based on a gap analysis of our FRS-NJ Schools results (2018 - Bronze Level). The plan includes the following areas targeted for improvement.

Indicator: Professional Learning Plan (Achieving)
Although a self-assessment scored Signal Hill as exemplary, the awards committee gave a score of achieving, pointing to the need for educators to flesh out a professional development plan that ensures the acquisition of skills necessary to effectively integrate technology both as a professional tool and one to support student achievement to meet the challenges of a digital age. Having a plan will help ensure both the teacher and students have the skills and knowledge needed to operate and evolve in our digital age and global society.

Indicator: Student-Driven, Self-Directed Learning (Achieving)
The scores from both a self-assessment and the awards committee show the need to increase the level of implementation throughout the school, requiring students to take ownership and play a role in their education. Student-driven learning prepares students for success in the digital age and fosters a mindset of lifelong learning.

Indicator: Student Choice (Didn't submit so no score available)
Although an assessment would likely prove at least achieving, there is room for growth in providing options for students to demonstrate mastery through choice. Leveraging student passions and interests cultivates a deeper engagement resulting in students being more equipped to meet the challenges of school, career, and citizenship post high school.

Indicator: Professional Learning to Support Integrated Instruction (Achieving)
Although a self-assessment scored Signal Hill as exemplary, the awards committee imparted a score of achieving pointing to the need for our school to provide ongoing opportunities for staff to interact with and participate in the world, both locally and globally, in order to bring these opportunities into their classroom.

Technology Plan	Details
Goal 1:	Provide teachers with authentic professional learning opportunities through increased technology and digital experiences
Strategies:	Design 21st Century district training to be more authentic, hands-on, with some focus on integrating technology Encourage staff to include in their PDP's, ways to integrate technology in their teaching and support of students Encourage peer to peer lesson sharing Encourage shared ownership and responsibility for professional development through PLNs Network within professional learning communities
Objective(s):	Provide ongoing and authentic turnkey training on technology integration using various tools Integrate technology tools and practices into PDP's Share and collaborate on lessons Provide time to collaborate with district peers and experts from other fields to build a hybrid (virtual & face to face) personal learning network Provide web resources for various types of PLN communities

FRS Theme: **Education and Classroom Practice**

FRS Gear: **Personalized Professional Learning/Professional Learning**

FRS Indicator(s): **Professional Learning Plan**

Evidence of Success:
Documentation of staff professional development hours
Professional certificates
PDPs that include technology integration and PLNs
Shared PGP Reflection Logs
Professional development feedback forms
Documentation of collaboration with both district peers and experts from other fields
Surveys
Tech standards met by most students

Action Plan for Goal 1			
Activities	**Individual(s) Responsible**	**Resources**	**Timeline**
Use district in-service days and mini-workshops to provide 21st Century training to reflect needs and best practices for professional development	District Technology Team	Planning Time Surveys	Years 1-3
Write PDPs that include ways to effectively integrate technology as both a tool and for student support	Administrators and Teachers	Planning Time PDPs	Years 1 - 3
Use template Google Classrooms to share lessons	Administrators and Teachers	Planning Time	Years 1 - 3
Collaborate and reflect upon professional development opportunities	Administrators, Teachers, and Staff	PLNs	Years 1-3
Attend workshops, webinars, and participate in other digital/personal networking experiences	Administrators, Teachers, and Staff	Workshops, Webinars, Digital/Personal Learning Networks	Years 1-3

Technology Plan Details

Goal 2: Foster an environment of student-centered, self-directed learning through competency-based and personalized learning which will empower students with more choice and control of their learning experiences

Strategies:
Increase exposure to classroom models utilizing flipped, blended, and inquiry-based learning
Encourage 21st Century, student-driven, self-directed learning activities
Ensure teachers, students, and parents are aware of digital learning resources and subscriptions available to them

Objective(s): Provide time for collaboration to develop lessons rich in student driven activities and choice
Provide opportunities for teachers to observe colleagues
Provide a variety of 21st century tools for student voice/choice, including Google Workspace for Education Apps
Provide documentation and support for parents on digital learning resources and subscriptions available to students during and after school hours

FRS Theme: **Education and Classroom Practice**

FRS Gear(s): **Curriculum, Instruction, and Assessment** and **Use of Time and Space**

FRS Indicator(s): **Student Driven, Self-Directed Learning** and **Student Choice**

Evidence of Success: Documentation of staff professional development hours
Professional development feedback forms
Teacher submitted lesson plans reflecting activity choice and student directed learning
Monitor usage of district-used digital learning resources and subscriptions
Surveys
Tech standards met by most students

Action Plan for Goal 2			
Activities	**Individual(s) Responsible**	**Resources**	**Timeline**
Use district in-service days to provide collaboration time to develop best practices for student driven/self-directed choice learning	Administrators and Teachers	Webinars, PLN, Innovation Committee, Professional Conferences	Years 1-3
Provide release time for classroom observation amongst colleagues	Administrators and Teachers	Teachers (Across the District)	Years 1-3
Design lessons with student-driven/self-directed learning opportunities utilizing student choice of 21st Century tools	Administrators and Teachers	Web Resources, Google tools, Digital Learning Resources and Subscription Information, Hardware, Software	Years 1-3
Disseminate login credentials to teachers, parents, and students for all digital learning resources and subscriptions Maintain updated information on school website (Kids Corner), for online curriculum subscriptions (Student Online Resources Web Page), and for Library databases	District Technology Team Librarian and Secretaries	Digital Learning Resources and Subscription Information SchoolWires Web Site	Years 1-3

Technology Plan	Details
Goal 3:	Create more frequent and meaningful community and global partnerships by increasing connections to local and global communities
Strategies:	Encourage staff to make classroom connections worldwide Communicate with parent groups and stake holders in the community Show the importance of community partnerships through professional conversation and reflection Encourage local/global community service projects Celebrate and publicize successes
Objective(s):	Provide training on videoconferencing and resources like Empatico Engage with parent groups, communicate with public relations staff, post on social media sites, post to school websites, and present at Board of Education Meetings Increase access to equipment for more authentic real-time interactions with local and community participants Utilize local and global community members for presentations and demonstrations Continue service projects focusing on local, national, and global organizations Share successes in faculty meetings, innovation committee meetings, and community attended meetings
FRS Theme:	**Education and Classroom Practice**
FRS Gear:	**Personalized Professional Learning and Community Partnerships**
FRS Indicator(s):	**Professional Learning to Support Integrated Instructional Technology**
Evidence of Success:	Google Meet recordings Retain copies of submissions of activity summaries, presentations, and pictures to local paper/social media and BOE Community Event Documentation/Planning Notes (STEAM Fair, Book Fair) Celebrated successes during faculty meetings Surveys Tech standards met by most students

Action Plan for Goal 3			
Activities	**Individual(s) Responsible**	**Resources**	**Timeline**
Students will utilize 21st century tools to gain knowledge and understanding about culture & communities	Administrators, Students, Teachers, Staff, & Community	Hardware, software, & web resources	Years 1-3
Virtual Presentations/Video Conferencing with Google Meet, Skype and Empatico	Administrators, Students, Teachers, Staff, & Community	Local Area Chamber of Commerce Community Volunteers Empatico.org	Years 1-3
Formal and informal professional conversations about importance of Community partnerships	Administrators, Teachers, Staff, & Community	Parent Group Community Volunteers Chamber of Commerce	Years 1-3

Make connections through webinars, workshops, and other networking experiences	Administrators, Teachers, and Staff	Webinars, Workshops, and Networking Experiences	Years 1-3
Signal Hill STEAM Fair (Collaboration between School and Community)	Administrators, Teachers, Staff, Community, EP Teacher, Technology Spec	Community Volunteers Community Businesses Parent Group	Years 1-3
Continue Husky Service Team projects focusing on local organizations but add in global causes as well	Administrators, Students, Teachers, Staff, & Community	Web Resources Community Businesses Parent Group	Years 1-3

Professional Learning Plan		
Goal #	**Initial Activities**	**Follow-Up Activities**
1	Attend workshops, conferences, webinars and make connections through online PLNs Professional conversation with district technology team Use template Google Classrooms created by the Technology Specialist to share lessons amongst colleagues	Plan and implement experiences to enhance school and district trainings Collaborate on training models and professional development opportunities for all staff Write PDPs that effectively include technology integration
2	Collaborate with teachers to research and develop student choice and student-driven/self-directed learning activities Provide login information for digital resources and subscriptions Survey teachers to find out if current resources are meeting the needs of their students Provide release time for collaboration and lesson design	Survey students about their opportunities for student choice and student-driven/self-directed learning; share activities through publication Research tools within existing resources for optimal usage Research new resources, if necessary
3	Attend workshops and webinars and make connections through digital resources Reach out to community & teachers for needs & suggestions	Turnkey information in mini workshops, at innovation and staff meetings, and informal conversations with all stakeholders Make global connections with classrooms worldwide gaining knowledge of culture and communities

Reflection and Adjustment Plan		
Goal #	**Initial Activities**	**Follow-Up Activities**
1	Professional conversations with administrators and teachers; celebrate successes and identify areas for growth opportunities	Adjust training models and opportunities, as necessary Research new PLN opportunities based on feedback

2	Professional conversations with administrators and teachers; celebrate successes and identify areas for growth opportunities	Adjust projects/activities based on feedback and results of technology surveys and tech standards Research new resources, if necessary
3	Professional conversations with administrators and teachers; celebrate successes and identify areas for growth opportunities Observe cultural awareness, stem activities, conduct survey	Adjust plans accordingly through the reflection of both formal and informal conversations with all stakeholders Reach out to community resources

Budget			
Goal #	**Activity**	**Funding Source (Federal/State/Private/District)**	**Amount**
1	Professional learning experiences-Workshops, Conferences, Turnkey Opportunities, Webinars, PLN Communities	School and District Budgets when needed	TBD
2	Professional learning experiences-Workshops, Conferences, Turnkey Opportunities, Webinars, PLN Communities	School and District and Budgets when needed	TBD
3	District learning activities with global & cultural awareness and stem activities Acquire equipment and resources for increased opportunity for global connections	District learning communities and STEM District Budget, School Budget, and CER	TBD

Voorhees Middle School - Technology Plan for Digital Learning 2023-26

Infrastructure

NJTRAx Technology Readiness completed during current school year.

Date: 06/30/2023 Rating: 9.0

Teaching and Learning

NJTRAx Digital Learning Readiness completed during current school year.

Date: 06/30/2023 Rating: 7.5

NJTRAx Survey 2022-23

Based on the NJTrax Survey from the 2022-23 school year, we have identified 3 areas to be addressed in Voorhees Middle School's three-year Technology Plan for Digital Learning. These goals have been developed in accordance with the results from the survey which was taken by 6th–8th grade students, teachers, parents, technology coordinators and administrators. The plan includes the following areas targeted for improvement.

Gear: Community Partnerships (Readiness Score: 7.4, Implementation Score 5.9)
Survey results show that although we scored a 7.5 on a readiness level, our implementation rate demonstrates an inconsistency in providing opportunities. Community partnerships allow for learning to extend past the confines of classroom walls and tap into experts, organizations and other students globally. Students learn to value diversity and better understand cultures and communities other than their own. Our school community's population is quite diverse, and our community partnerships should reflect this. Building community partnerships is also essential for successful schools as greater parent/community involvement is linked to higher student achievement.

Gear: Curriculum, Instruction, and Assessment (Readiness Score: 7.3, Implementation Score 6.6)
The readiness score suggests that we are prepared for personalized learning, but the implementation level indicates that more opportunities for personalized learning must be provided.

Gear: Professional Learning (Readiness Score: 6.8)
Technology and digital learning provide increased professional learning opportunities for educators. These resources allow teachers and administrators to collaborate, learn, and share with colleagues globally. Such opportunities ultimately lead to higher student success and create a deeper understanding of the skills needed for student success in the digital age.

Future Ready Schools – NJ Bronze Certification 2018-19

Based on the FRS-NJ Bronze Certification experience during the 2018-2019 school year, we have identified 3 areas to be addressed in Voorhees Middle School's three-year Technology Plan for Digital Learning. These goals have been developed after a gap analysis performed by VMS's Innovation Committee that includes teachers, the technology specialist, and administrators.

Indicator: Student-Driven, Self-Directed Learning (Achieving)
Although we received an exemplary score in this area, we feel that student-driven, self-directed learning requires continued focus to increase the level of implementation throughout the school.

Indicator: Community Joint Activity Planning (Foundational)
The results indicate that our school has room to grow by continuing to foster a relationship with community partners to advance the school's learning goals beyond the walls of the school and extend our understanding and appreciation of diversity.

Indicator: Ongoing Reflection and Refinement (Achieving)
Ongoing reflection and refinement leads to shared ownership of professional development and growth, as well as, improved professional learning networks.

Details

Technology Plan

Goal 1:	Foster an environment of student-driven, self-directed learning which will empower students with more choice and control of their learning experiences. Student-centered learning requires flexibility and adaptability in the use of instructional time. It is student-centric, empowering students to have control and choice in what, when, and how they learn which requires innovative uses of technology.
Strategies:	Student-Driven, Self-Directed Learning Activities
Objective(s):	To increase the implementation of projects that are student-driven and provide the opportunity for the students to be self-directed learners.
FRS Theme:	Education Classroom and Practice
FRS Gear:	Curriculum, Instruction and Assessment
FRS Indicator:	Student-Driven, Self-Directed Learning
Evidence of Success:	Evidence of increased implementation of project based, student-driven learning opportunities through staff and student presentations and year end surveys.

Action Plan for Goal 1			
Activities	**Individual(s) Responsible**	**Resources**	**Timeline**
Continue to increase knowledge, and understanding of collaborative tools and activities	Administrators, Students, teachers, staff & collaboration	Google tools, videos & web resources PLNs, Innovation Committee, and Trainings	Ongoing Years 1 - 3
Design lessons with student-driven, self-directed learning opportunities utilizing 21st Century tools	Administrators, Teachers, and Staff	Hardware, Software, Web Resources	Ongoing Years 1 - 3
Collaborate on student-driven, self-directed learning best practices utilizing Google Tools	Administrators, Teachers, and Staff	PLNs, Innovation Committee, and Trainings	Ongoing Years 1 - 3

Technology Plan	Details
Goal 2:	Create deeper community partnerships by increasing formal and informal connections to local and global communities. Community partnerships extend and deepen all students' knowledge, understanding, and appreciation of cultures and communities other than their own. These networks enable all students and education professionals to connect, interact, and collaborate with other students, experts, and organizations from outside the walls of their school.
Strategies:	Provide increased access to resources which foster community partnerships Encourage professional conversation and reflection revolving community partnerships Share experiences at faculty, grade level, and innovation meetings
Objective(s):	Increase access and training on videoconferencing Increase teacher memberships in education-based global communities Provide activity summaries to be published in papers, website, and social media
FRS Theme:	Leadership
FRS Gear:	Community Partnership
FRS Indicator:	Community Joint Activity Planning
Evidence of Success:	School visits by community leaders, Google Meet encounters with experts, teacher surveys, and presentations about student and staff experiences with activities.

Action Plan for Goal 2			
Activities	**Individual(s) Responsible**	**Resources**	**Timeline**
Formal and informal professional conversations about the importance of community partnerships Provide activity summaries to be published in papers, website, and social media	All Educational Community Stakeholders Administrators, Teachers, and Staff	Parent Group Chamber of Commerce Innovation Committee	Ongoing Years 1 - 3
Make connections through webinars, workshops, and other networking experiences	Administrators, Teachers, and Staff	Webinars, Workshops, and Networking Experiences	Ongoing Years 1 - 3
Students will utilize 21st Century tools to gain knowledge and understanding about communities and cultures Students will create multimedia projects to communicate with the community	Students, Administrators, Teachers, Staff, and Community	Hardware, Software, Web Resources	Ongoing Years 1 - 3

Technology Plan	Details
Goal 3:	Provide teachers with authentic professional learning opportunities through increased technology and digital experiences. Staff must be immersed in meaningful development and learning that provides them the time and flexibility to make connections to their content areas. This experience will allow them to make real-world connections that can be turnkeyed to their students.
Strategies:	Design 21st Century district training to be more authentic by moving away from the "sit and get" model of professional development Encourage shared ownership and responsibility for professional development through PLNs
Objective(s):	Staff connects and collaborates with educators locally and globally
FRS Theme:	Education Classroom and Practice
FRS Gear:	Personalized Professional Learning
FRS Indicator:	Ongoing Reflection and Refinement
Evidence of Success:	Documentation of staff professional development

Action Plan for Goal 3			
Activities	**Individual(s) Responsible**	**Resources**	**Timeline**
Attend workshops, webinars, and participate in other digital networking experiences	Administrators, Teachers, and Staff	Workshops, Webinars, and Digital Learning Networks	Ongoing Years 1 - 3
Plan district-wide 21st Century training to reflect needs and best practices for professional development	District Technology Team	Planning Time Surveys	Ongoing Years 1 - 3
Collaborate and reflect upon professional development opportunities	Administrators, Teachers, and Staff	PLNs	Ongoing Years 1 - 3

Professional Learning Plan		
Goal #	**Initial Activities**	**Follow-Up Activities**
1	Collaborate with teachers to research and develop student-driven, self-directed learning activities Survey teachers to find out if current resources are meeting the needs of their students	Survey students about their opportunities for student-driven, self-directed learning; share activities through publication Research tools within existing resources for optimal usage Research new resources, if necessary
2	Attend workshops and webinars and make connections through digital resources	Turnkey information in Wednesday workshops, at innovation and staff meetings, and informal conversations with all stakeholders
3	Attend workshops, webinars, etc.	Plan and implement experiences to enhance school and district trainings

	Professional conversation with district technology team	Collaborate on training models and professional development opportunities for all staff

Reflection and Adjustment Plan		
Goal #	**Initial Activities**	**Follow-Up Activities**
1	Professional conversations with administrators and teachers; review technology standards as they evolve and how to infuse them into the activities	Adjust projects/activities based on feedback and results of technology standards Research new resources, if necessary, arrange for demos, and obtain quotes
2	Professional conversations with administrators and teachers; reviewing survey results from the community	Review NJTrax Survey Results. Provide feedback and ongoing communication to improve community relations.
3	Professional conversations with administrators and teachers; celebrate successes and view failures as learning opportunities	Adjust training models and opportunities, as necessary Research new PLN opportunities based on feedback

Budget			
Goal #	**Activity**	**Funding Source (Federal/State/Private/District)**	**Amount**
1	Professional learning experiences focused on student-driven, self-directed activities utilizing 21st century tools	District Budget, School Budget, and CER	TBD
2	Acquire equipment and resources for increased opportunity for local and global connections	District Budget, School Budget, and CER	TBD
3	Professional learning experiences focused on educator professional development	District Budget and School Budget	TBD

Appendices

Appendix A: Hardware Resource Distribution

Network Servers

Products	Hamilton	Kresson	Osage	Signal Hill	VMS	Admin	Total Type
Cisco USC HX220c					2		**2**
Cisco USC HX240c					5		**5**
Total/Location					7		**7**

Network Appliances

Products	Hamilton	Kresson	Osage	Signal Hill	VMS	Admin	Total Type
Cisco FTD 2140 Firewall	0	0	0	0	1	0	**1**
FirePower Management Center – FireSIGHT 750	0	0	0	0	1	0	**1**
Cisco Umbrella DNS Servers	0	0	0	0	2	0	**2**
Unitrends Recovery-9032S Backup Appliance	0	0	0	0	1	0	**1**
Cisco Identity Services Engine (VM)	0	0	0	0	2	0	**2**
NCS Prime Infrastructure (VM)	0	0	0	0	1	0	**1**
Total	**0**	**0**	**0**	**0**	**8**	**0**	**8**

Network Communications Resources

Products	Hamilton	Kresson	Osage	Signal Hill	VMS	Admin	Total Type
Cisco ASR 1001-X Router	0	0	0	0	1	0	**1**
Cisco Catalyst 9500 Core Switch	0	0	0	0	1	0	**1**

Cisco Catalyst 9300 PoE Switch (48-Port)	3	4	4	3	9	1	**24**
Cisco Catalyst 9300 PoE Switch (24-Port)	1	0	1	1	5	1	**9**
Meraki MR46 Wireless Access Point	35	42	42	41	90	5	**256**
Meraki MR56 Wireless Access Point	5	4	5	5	8	1	**28**

Desktop Computers

Computers	Hamilton	Kresson	Osage	Signal Hill	VMS	Admin	Total Type
Apple iMac	**0**	**1**	**0**	**0**	**25**	**2**	**28**
Dell OptiPlex 700-Series Desktop	**2**	**0**	**0**	**1**	**0**	**0**	**3**
Dell OptiPlex 5000-Series	0	2	21	4	11	2	**40**
Dell OptiPlex 7000-Series	52	70	44	103	119	26	**414**
Dell Precision Workstation	0	0	0	0	28	1	**29**
Total	**54**	**73**	**65**	**108**	**183**	**31**	**514**

Portable Computers/Tablets

Computers	Hamilton	Kresson	Osage	Signal Hill	VMS	Admin	Total Type
Apple iPad 9th Generation	21	10	75	4	1100	0	**1210**
Apple iPad 8th Generation	77	41	102	15	0	0	**235**
Apple iPad 7th Generation	94	135	103	133	0	0	**465**
Apple iPad 6th Generation	395	348	371	409	0	0	**1,523**
Apple Macbook Pro Notebook	2	1	1	2	12	3	**21**
Dell Latitude E-Series Notebook	302	269	209	254	240	50	**1,324**
Dell Vostros Notebook	0	0	1	0	0	2	**3**
Total	**891**	**804**	**862**	**817**	**1,352**	**55**	**4,781**

Printers

Products	Hamilton	Kresson	Osage	Signal Hill	VMS	Admin	Total Type
InkJet Printers	2	2	2	2	4	1	**13**
Multifunction Devices	2	2	2	2	9	4	**21**
B/W Laser Printers	3	4	4	2	8	10	**31**
Color Laser Printers	2	2	2	2	5	5	**18**
Total	**10**	**12**	**11**	**9**	**28**	**23**	**93**

Classroom Display

Products	Hamilton	Kresson	Osage	Signal Hill	VMS	Admin	Total Type
Clear Touch 6000 Series 75" Interactive Panel	34	44	48	39	85	3	**253**
LED Flat Panel Monitor	1	0	2	0	1	0	**4**
LCD Projector	5	5	7	5	8	2	**34**

Digital Video Distribution

Products	Hamilton	Kresson	Osage	Signal Hill	VMS	Admin	Total Type
Safari Montage Media Server	0	0	0	0	1	0	**1**
Safari Montage Quad Encoder	0	0	0	0	1	0	**1**

Videoconferencing Resources

Products	Hamilton	Kresson	Osage	Signal Hill	VMS	Admin	Total Type
Cisco Business Edition 6000 Server	0	0	0	0	1	0	**1**
Cisco Expressway-C Server	0	0	0	0	1	0	**1**
Cisco Expressway-E Server	0	0	0	0	1	0	**1**
Cisco Room Kit Plus/Quad Cam Plus w/Codec	0	0	0	0	0	1	**1**
Cisco SX10 Video Endpoint	0	0	0	0	1	0	**1**
Cisco DX80 Video Endpoint	0	0	0	0	3	0	**3**
Cisco DX70 Video Endpoint	0	0	0	0	3	0	**3**

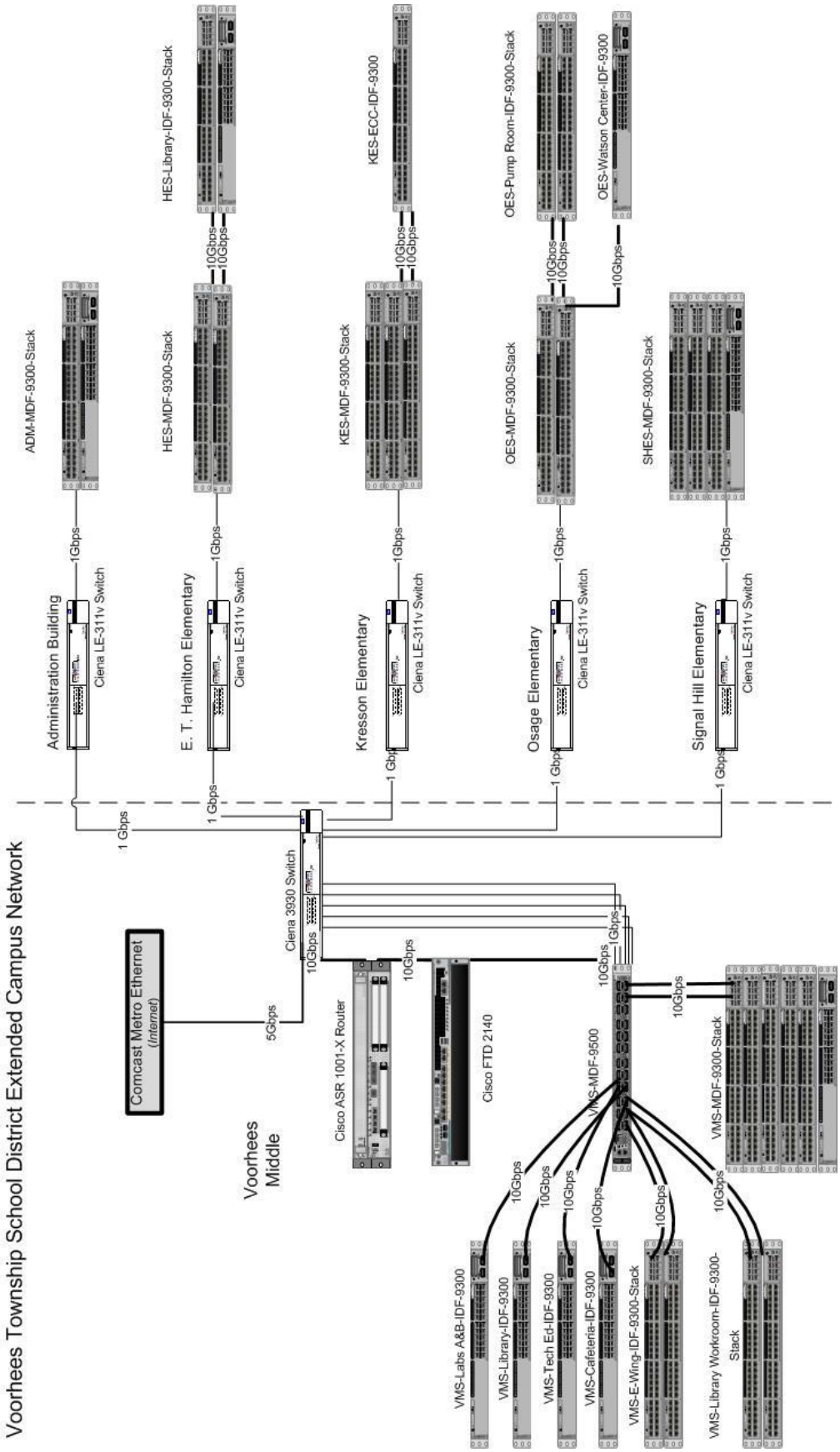
Telephony Resources

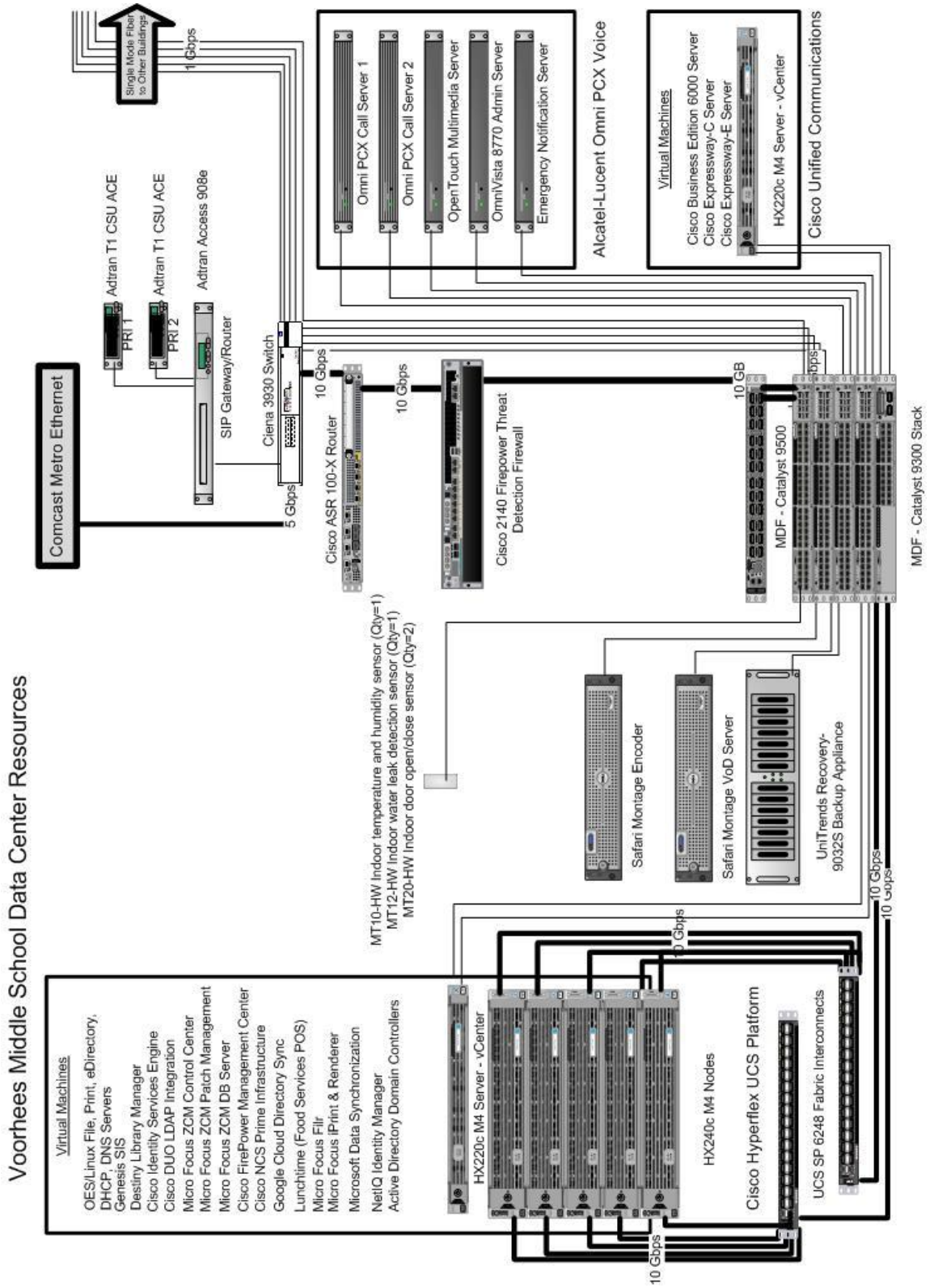
Products	Hamilton	Kresson	Osage	Signal Hill	VMS	Admin	Total Type
Alcatel-Lucent Omni PCX Call Server	0	0	0	0	2	0	**2**

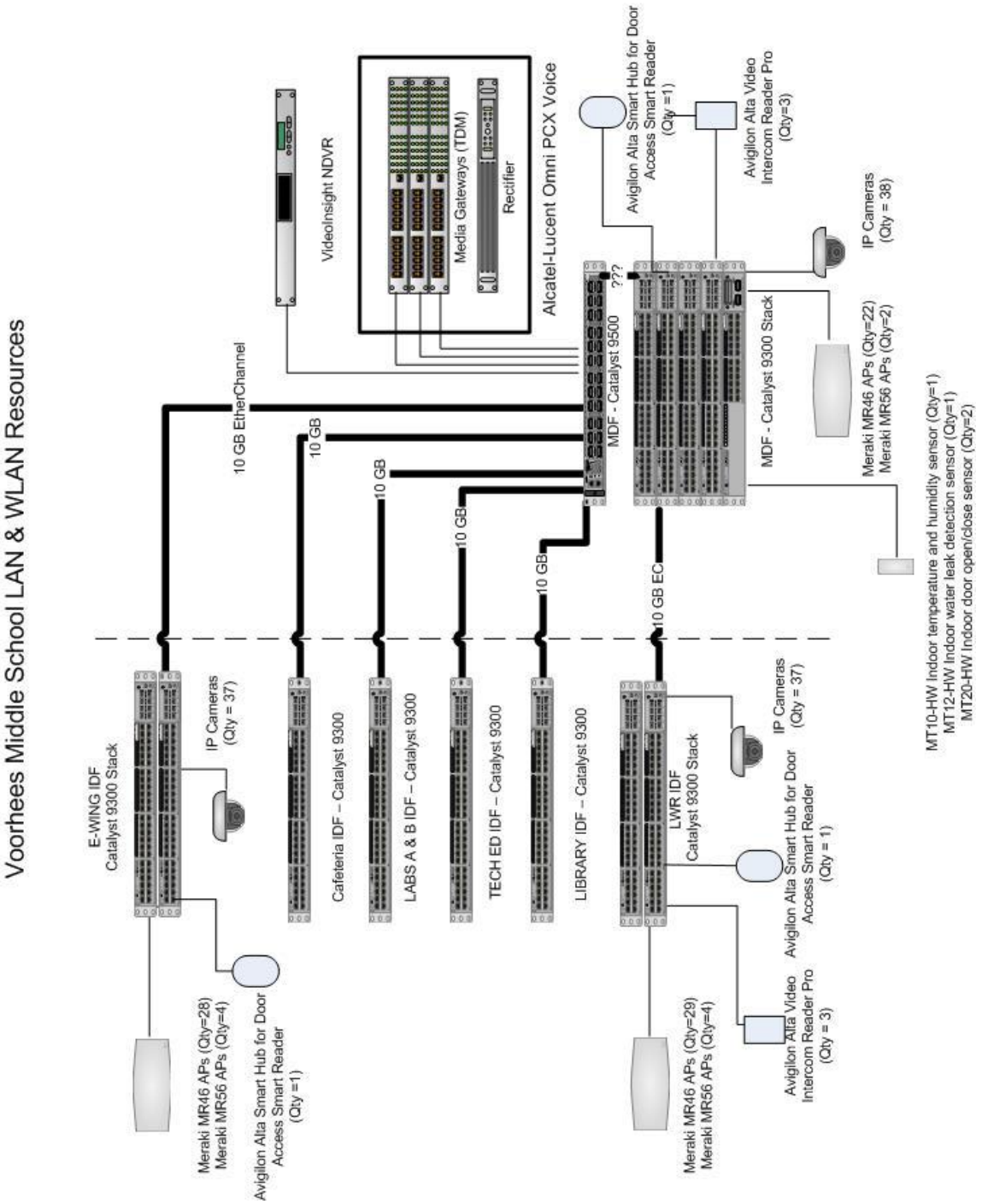
Alcatel-Lucent OpenTouch Multimedia Server	0	0	0	0	1	0	**1**
Alcatel-Lucent OmniVista 8770 Mgmt Server	0	0	0	0	1	0	**1**
Alcatel-Lucent Emergency Notification Server (ENS)	0	0	0	0	1	0	**1**
Alcatel-Lucent Media Gateway	1	1	1	1	3	1	**8**
Alcatel-Lucent Rectifier	1	1	1	1	1	1	**6**
Alcatel-Lucent Model 8039 Digital Display Speaker Phones	14	14	12	14	27	28	**82**
Alcatel-Lucent Model 8029 Digital Display Speaker Phones	44	40	54	57	115	0	**310**
Alcatel-Lucent Model 8068 VoIP Display Speaker Phones	0	0	0	0	0	12	**12**
Alcatel-Lucent Page & Door System Integration	1	1	1	1	1	1	**6**

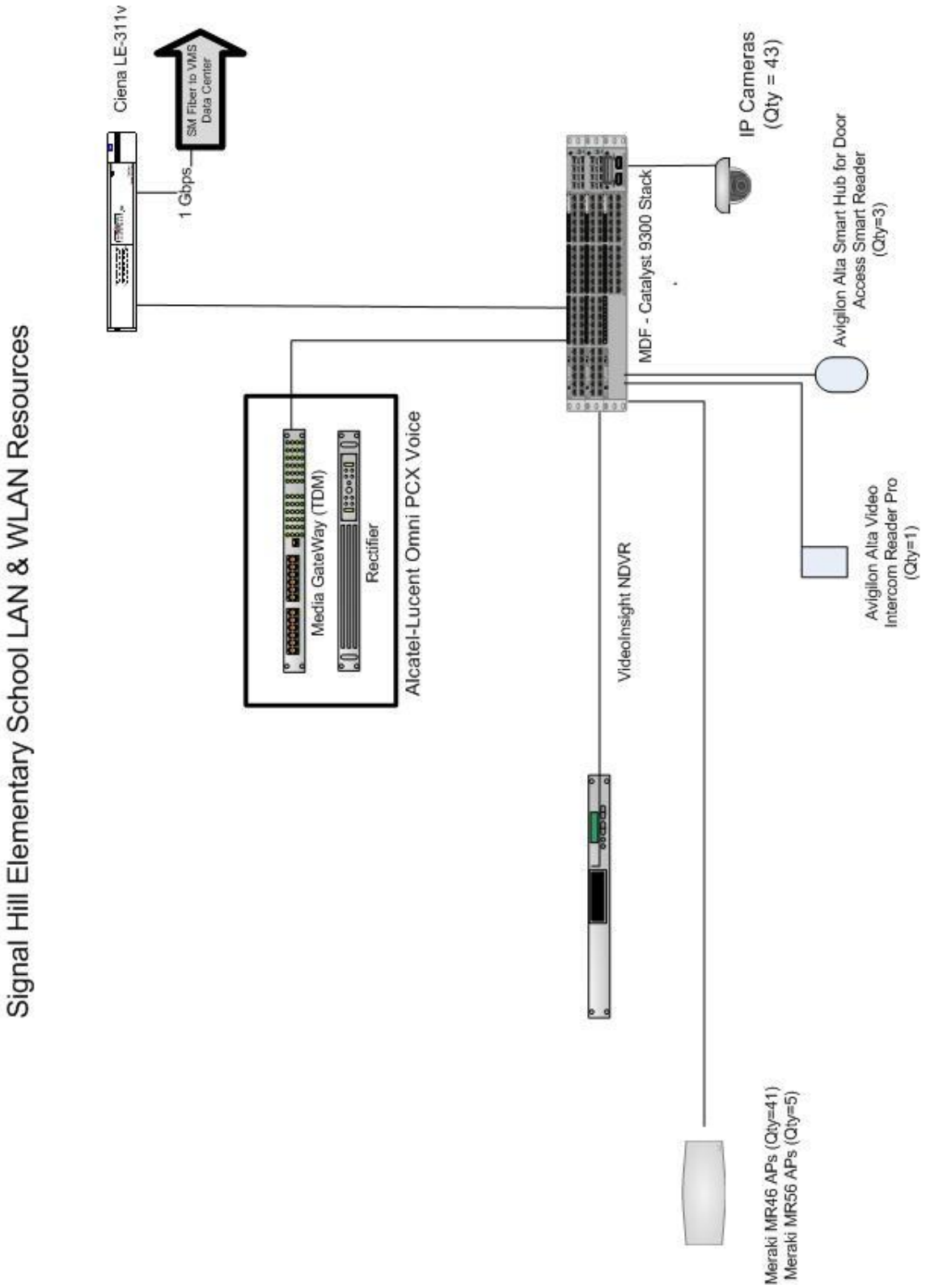
Video Surveillance Resources

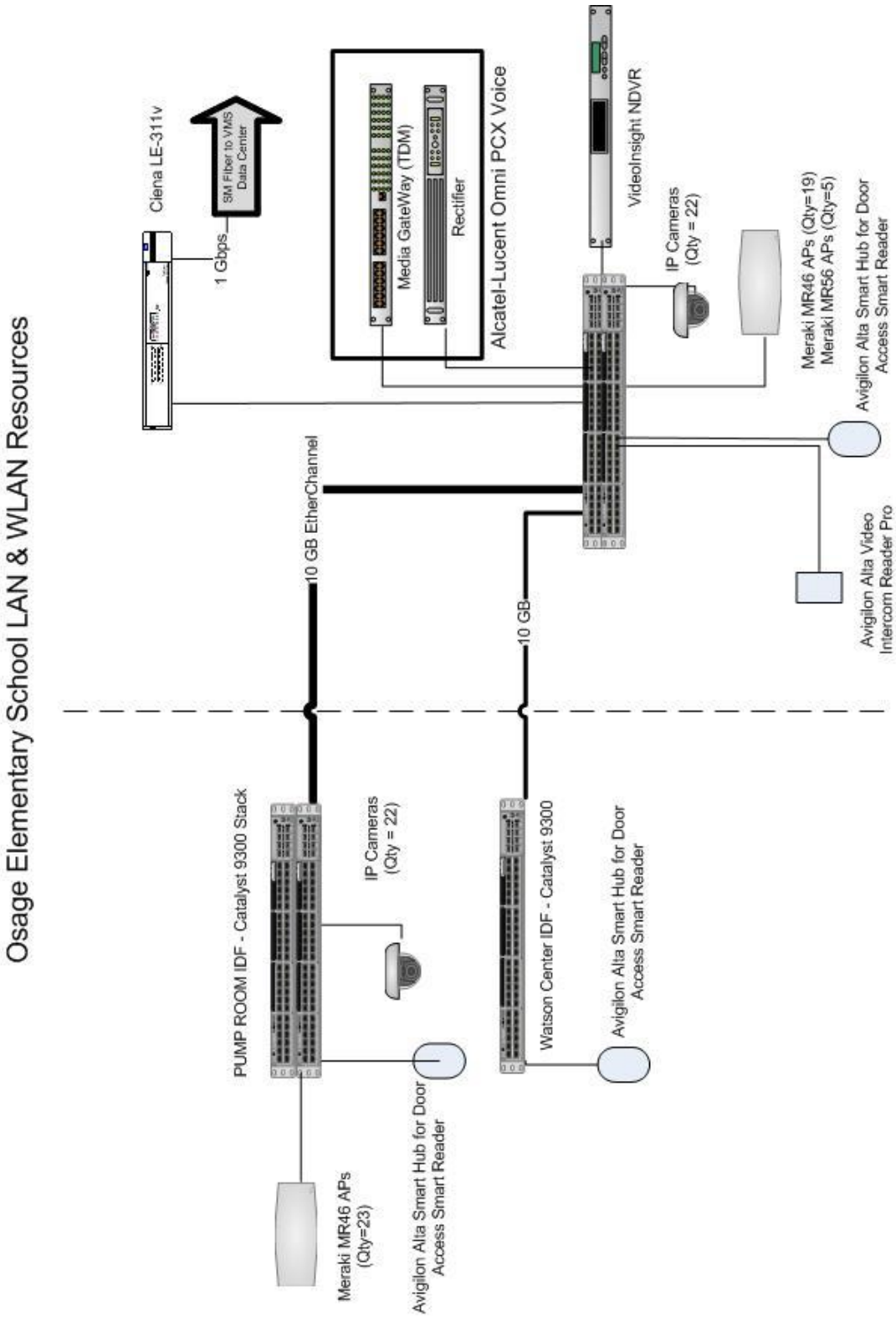
Products	Hamilton	Kresson	Osage	Signal Hill	VMS	Admin	Total Type
Panasonic WJ-ND400 Network Digital Video Recorder (NDVR)	1	1	1	1	2	0	**6**
Panasonic WV-SF346 Network IP Camera	40	49	44	43	112	0	**288**
HIKVISION NVR	1	1	1	1	1	1	**5**
HIVISION Thermal & Optical Bi-Spectrum Scanner	1	1	1	1	1	0	**5**

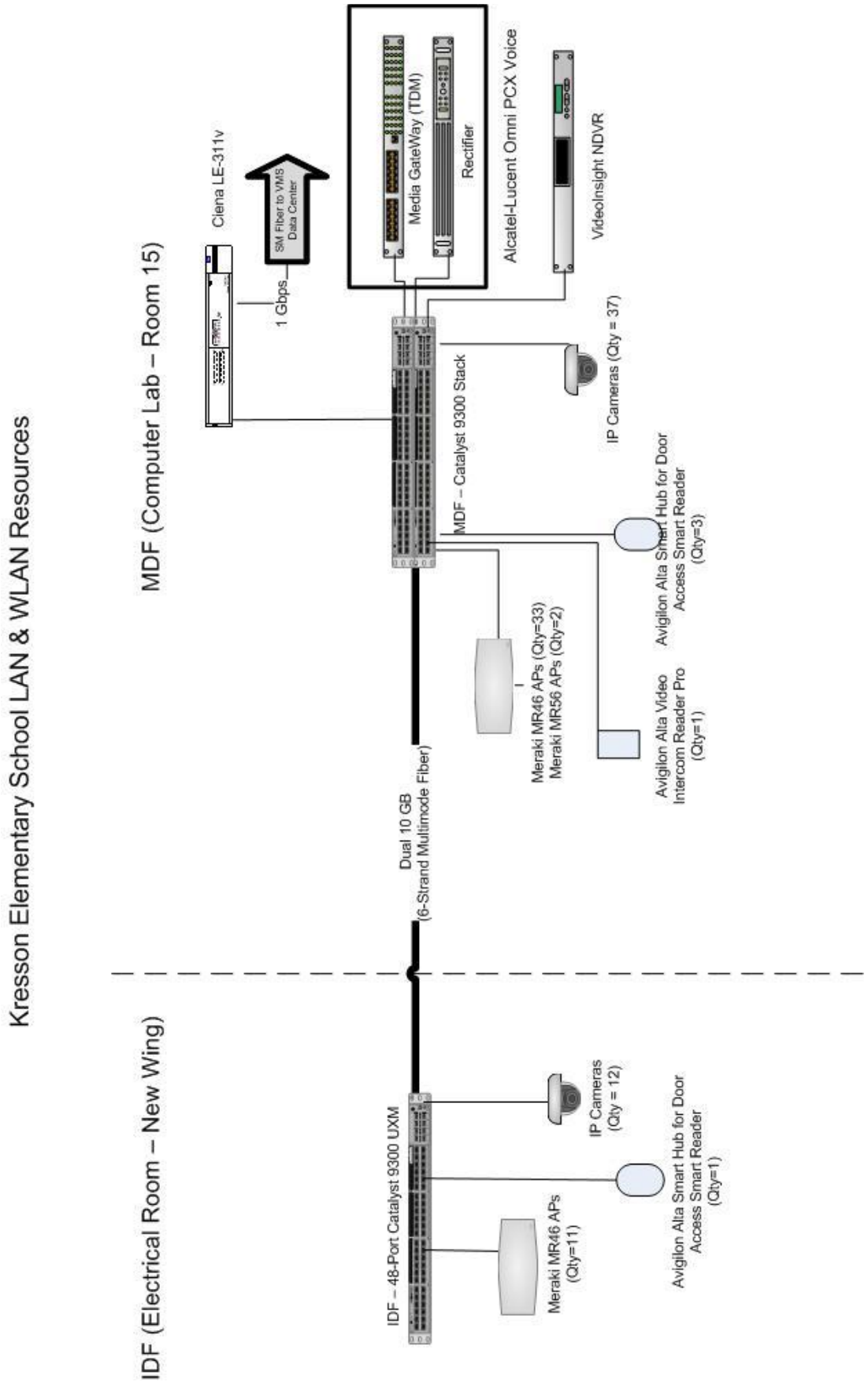

Voorhees Township School District Extended Campus Network
Comcast Metro Ethernet
(Internet)
5Gbps
Voorhees
Middle
Ciena 3930 Switch
10Gbps
Cisco ASR 1001-X Router
Cisco FTD 2140
VMS-MDF-9500
VMS-MDF-9300-Stack
ADM-MDF-9300-Stack
Administration Building
Ciena LE-311v Switch
1Gbps
1 Gbps
HES-Library-IDF-9300-Stack
HES-MDF-9300-Stack
E. T. Hamilton Elementary
KES-ECC-IDF-9300
KES-MDF-9300-Stack
Kresson Elementary
OES-Pump Room-IDF-9300-Stack
OES-Watson Center-IDF-9300
OES-MDF-9300-Stack
Osage Elementary
SHES-MDF-9300-Stack
Signal Hill Elementary
VMS-Labs A&B-IDF-9300
VMS-Library-IDF-9300
VMS-Tech Ed-IDF-9300
VMS-Cafeteria-IDF-9300
VMS-E-Wing-IDF-9300-Stack
VMS-Library Workroom-IDF-9300-Stack

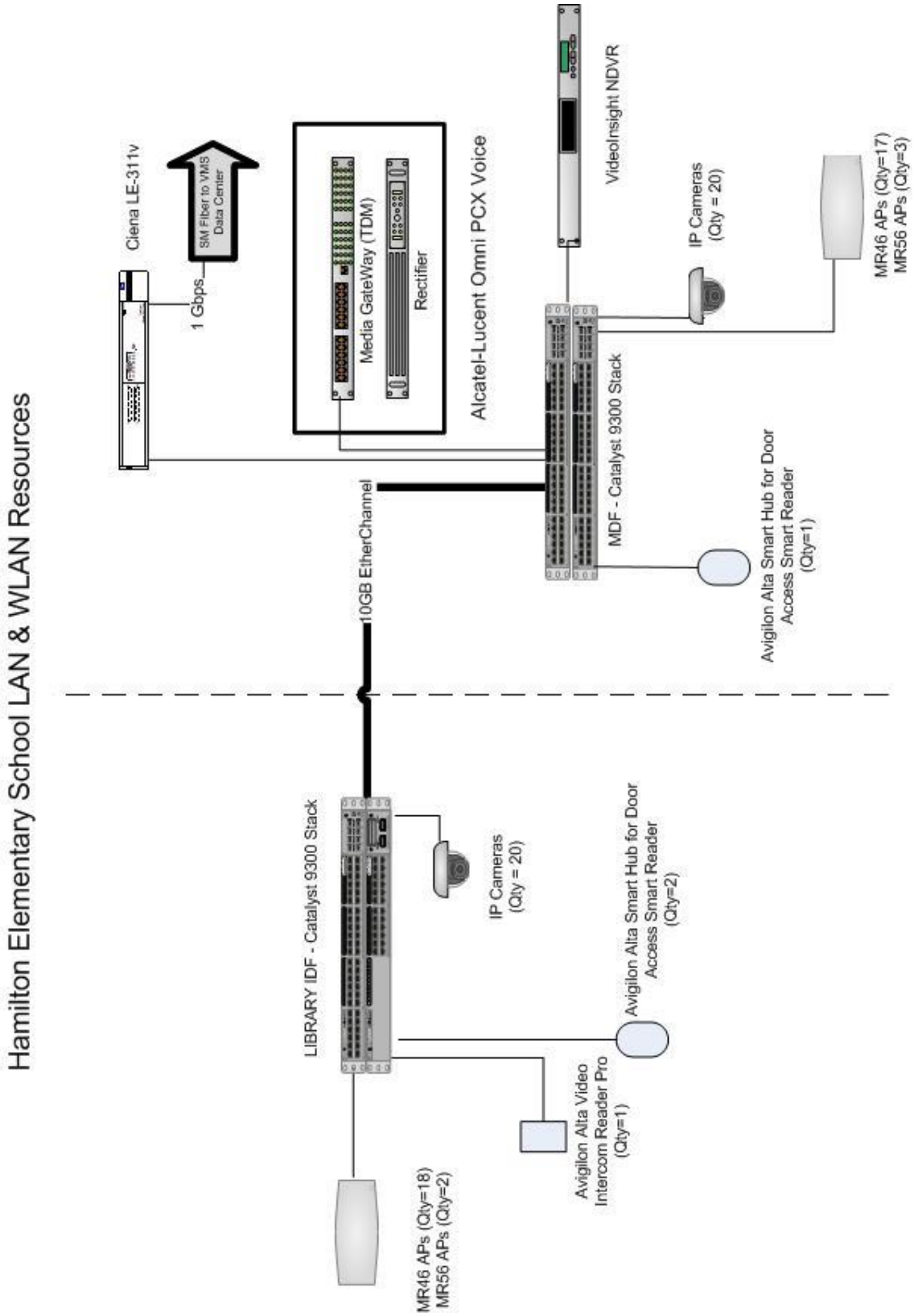

Voorhees Middle School Data Center Resources
Virtual Machines
OES/Linux File, Print, eDirectory,
DHCP, DNS Servers
Genesis SIS
Destiny Library Manager
Cisco Identity Services Engine
Cisco DUO LDAP Integration
Micro Focus ZCM Control Center
Micro Focus ZCM Patch Management
Micro Focus ZCM DB Server
Cisco FirePower Management Center
Cisco NCS Prime Infrastructure
Google Cloud Directory Sync
Lunchtime (Food Services POS)
Micro Focus Filr
Micro Focus iPrint & Renderer
Microsoft Data Synchronization
NetIQ Identity Manager
Active Directory Domain Controllers
HX220c M4 Server - vCenter
HX240c M4 Nodes
Cisco Hyperflex UCS Platform
UCS SP 6248 Fabric Interconnects
10 Gbps
MT10-HW Indoor temperature and humidity sensor (Qty=1)
MT12-HW Indoor water leak detection sensor (Qty=1)
MT20-HW Indoor door open/close sensor (Qty=2)
Safari Montage Encoder
Safari Montage VoD Server
UniTrends Recovery-
9032S Backup Appliance
MDF - Catalyst 9500
MDF - Catalyst 9300 Stack
10 GB
Cisco 2140 Firepower Threat
Detection Firewall
10 Gbps
Cisco ASR 100-X Router
10 Gbps
Ciena 3930 Switch
5 Gbps
SIP Gateway/Router
Adtran Access 908e
Adtran T1 CSU ACE
PRI 2
Adtran T1 CSU ACE
PRI 1
Comcast Metro Ethernet
Single Mode Fiber
to Other Buildings
1 Gbps
Alcatel-Lucent Omni PCX Voice
Omni PCX Call Server 1
Omni PCX Call Server 2
OpenTouch Multimedia Server
OmniVista 8770 Admin Server
Emergency Notification Server
Cisco Unified Communications
Virtual Machines
Cisco Business Edition 6000 Server
Cisco Expressway-C Server
Cisco Expressway-E Server
HX220c M4 Server - vCenter

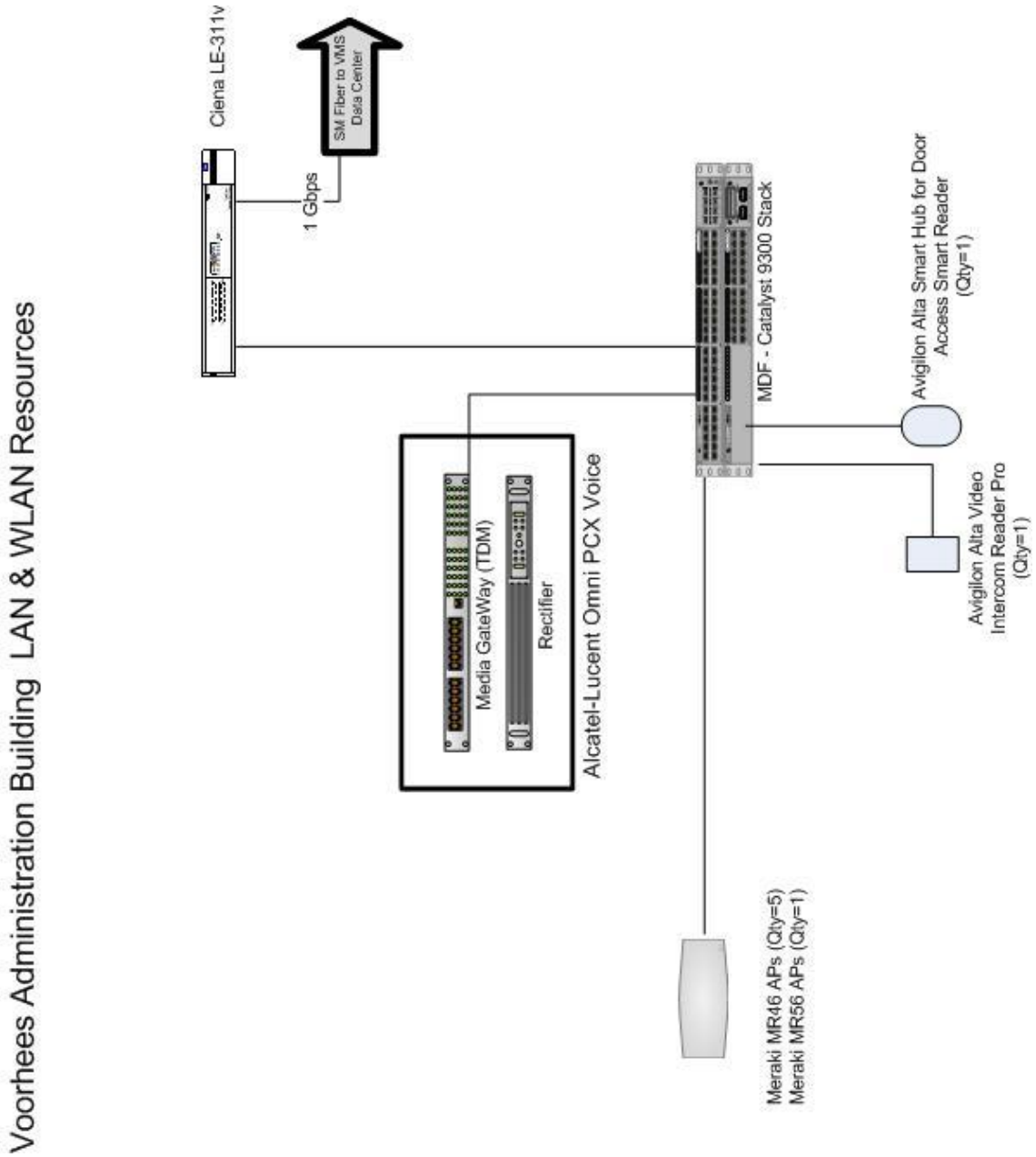

Voorhees Middle School LAN & WLAN Resources
VideoInsight NDVR
Media Gateways (TDM)
Rectifier
Alcatel-Lucent Omni PCX Voice
Avigilon Alta Smart Hub for Door Access Smart Reader (Qty =1)
Avigilon Alta Video Intercom Reader Pro (Qty=3)
IP Cameras (Qty = 38)
10 GB EtherChannel
10 GB
10 GB
10 GB
10 GB
10 GB EC
MDF - Catalyst 9500
???
MDF - Catalyst 9300 Stack
Meraki MR46 APs (Qty=22)
Meraki MR56 APs (Qty=2)
MT10-HW Indoor temperature and humidity sensor (Qty=1)
MT12-HW Indoor water leak detection sensor (Qty=1)
MT20-HW Indoor door open/close sensor (Qty=2)
E-WING IDF
Catalyst 9300 Stack
IP Cameras (Qty = 37)
Cafeteria IDF – Catalyst 9300
LABS A & B IDF – Catalyst 9300
TECH ED IDF – Catalyst 9300
LIBRARY IDF – Catalyst 9300
LWR IDF
Catalyst 9300 Stack
IP Cameras (Qty = 37)
Avigilon Alta Smart Hub for Door Access Smart Reader (Qty = 1)
Meraki MR46 APs (Qty=28)
Meraki MR56 APs (Qty=4)
Avigilon Alta Smart Hub for Door Access Smart Reader (Qty =1)
Meraki MR46 APs (Qty=29)
Meraki MR56 APs (Qty=4)
Avigilon Alta Video Intercom Reader Pro (Qty = 3)


Signal Hill Elementary School LAN & WLAN Resources
Ciena LE-311v
SM Fiber to VMS Data Center
1 Gbps
IP Cameras (Qty = 43)
MDF - Catalyst 9300 Stack
Avigilon Alia Smart Hub for Door Access Smart Reader (Qty=3)
Media GateWay (TDM)
Rectifier
Alcatel-Lucent Omni PCX Voice
VideoInsight NDVR
Avigilon Alia Video Intercom Reader Pro (Qty=1)
Meraki MR46 APs (Qty=41)
Meraki MR56 APs (Qty=5)


Osage Elementary School LAN & WLAN Resources
Ciena LE-311v
1 Gbps
SM Fiber to VMS Data Center
Alcatel-Lucent Omni PCX Voice
Media GateWay (TDM)
Rectifier
VideoInsight NDVR
IP Cameras (Qty = 22)
Meraki MR46 APs (Qty=19)
Meraki MR56 APs (Qty=5)
Avigilon Alta Smart Hub for Door Access Smart Reader
Avigilon Alta Video Intercom Reader Pro
10 GB EtherChannel
10 GB
PUMP ROOM IDF - Catalyst 9300 Stack
IP Cameras (Qty = 22)
Meraki MR46 APs (Qty=23)
Avigilon Alta Smart Hub for Door Access Smart Reader
Watson Center IDF - Catalyst 9300
Avigilon Alta Smart Hub for Door Access Smart Reader


Kresson Elementary School LAN & WLAN Resources
MDF (Computer Lab – Room 15)
IDF (Electrical Room – New Wing)
Ciena LE-311v
SM Fiber to VMS Data Center
1 Gbps
Media GateWay (TDM)
Rectifier
Alcatel-Lucent Omni PCX Voice
VideoInsight NDVR
MDF – Catalyst 9300 Stack
IP Cameras (Qty = 37)
Avigilon Alta Smart Hub for Door Access Smart Reader (Qty=3)
Meraki MR46 APs (Qty=33)
Meraki MR56 APs (Qty=2)
Avigilon Alta Video Intercom Reader Pro (Qty=1)
Dual 10 GB (6-Strand Multimode Fiber)
IDF – 48-Port Catalyst 9300 UXM
IP Cameras (Qty = 12)
Avigilon Alta Smart Hub for Door Access Smart Reader (Qty=1)
Meraki MR46 APs (Qty=11)


Hamilton Elementary School LAN & WLAN Resources
Ciena LE-311v
SM Fiber to VMS Data Center
1 Gbps
Media GateWay (TDM)
Rectifier
Alcatel-Lucent Omni PCX Voice
VideoInsight NDVR
IP Cameras (Qty = 20)
MR46 APs (Qty=17)
MR56 APs (Qty=3)
10GB EtherChannel
MDF - Catalyst 9300 Stack
Avigilon Alta Smart Hub for Door Access Smart Reader (Qty=1)
LIBRARY IDF - Catalyst 9300 Stack
IP Cameras (Qty = 20)
Avigilon Alta Smart Hub for Door Access Smart Reader (Qty=2)
Avigilon Alta Video Intercom Reader Pro (Qty=1)
MR46 APs (Qty=18)
MR56 APs (Qty=2)


Voorhees Administration Building LAN & WLAN Resources
Ciena LE-311v
SM Fiber to VMS Data Center
1 Gbps
MDF - Catalyst 9300 Stack
Avigilon Alta Smart Hub for Door Access Smart Reader (Qty=1)
Avigilon Alta Video Intercom Reader Pro (Qty=1)
Alcatel-Lucent Omni PCX Voice
Media GateWay (TDM)
Rectifier
Meraki MR46 APs (Qty=5)
Meraki MR56 APs (Qty=1)

Appendix B: Software Resources – Operations, Communications, Security & Management

Local On-Premises Resources

- Google Cloud Directory Sync (GCDS) Server
- Microsoft School Directory Sync (SDS) Server
- Micro Focus SUSE Linux / Open Enterprise Server
- Microsoft Active Directory
- Microsoft Windows Server 2012 R2, 2012 R2, 2016, 2019, Data Center
- NetIQ eDirectory & Identity Management Service (IDM)
- VMware vSphere
- Micro Focus Filr
- Micro Focus iPrint (Mobile)
- Unitrends Recovery-9032S and Backup Agents for Linux, Windows, VMware

Hosted (Internet) Resources

- FinalSite Web Community Manager
- Microsoft Office 365 Online Applications
- Microsoft Azure Active Directory
- Google Workspace Enterprise Applications
- Apple Managed Applications
- Clever SSO and Linked Educational Applications
- SysCloud Google Workspace Cloud Backup
- Avigilon Alta (formerly Openpath) Control Center

Network Management

- Micro Focus ZENWorks Configuration Management
- Micro Focus ZENWorks Patch Management
- Micro Focus iManager, ConsoleOne, DNSDHCP Management, and Storage Manager
- Micro Focus SUSE Linux YaST, LVM, GRUB
- Cisco Firepower Manager
- Cisco Prime Infrastructure (NCS)
- Meraki Dashboard
- Jamf Pro Mobile Device Management System
- VMware vCenter
- Apple School Manager
- Microsoft Office 365 Admin Portal
- Google Admin Console

Cybersecurity

- Cisco Secure Endpoint (formerly AMP for Endpoints)
- Cisco Firepower Manager with AMP
- Cisco Threat Detection Portal
- Cisco Cloud E-mail Security
- Cisco Umbrella Web Security
- Cisco Identity Services Engine (ISE)
- Cisco Cloudlock Content Security

- Cisco DUO MFA and Endpoint Security
- Cisco AnyConnect VPN Client

Student Information

- Genesis Student Information System
  - Teacher Gradebook Module
  - Parent Access Module
  - Custom Database Interoperability Interfaces – Automated Data Exchange
- Frontline IEP (IEP Direct)

Staff Information

- Genesis Student Information System - Staff Database
- iObservation
- Frontline Absence and Substitute Management (AESOP)
- Systems 3000 (Accounting/Payroll)

Library

- Follett Destiny Library Manager

Food Services

- Lunchtime Back Office & Point-of-Service
- Lunchtime Parent Portal

Productivity

- Google Workspace Enterprise (Docs, Sheets, Slides, Keep, etc.)
- Microsoft Office 365 Suite (Word, Excel, PowerPoint, etc.)
- Apple (Pages, Numbers, Keynote, etc.)

Communications / Collaboration

- Google Workspace Enterprise (Gmail, Classroom, Meet, Translate, Jamboard, etc.)
- Microsoft Office 365 Suite (OneNote, Teams, Skype for Business)
- Apple (iMessage, Facetime)
- FinalSite Web Community Manager
- Facebook
- Twitter
- Apple iTunes University

Classroom Management

- Google Classroom
- Apple Classroom / Schoolworks
- Microsoft Teams

Physical Security

- Panasonic VideoInsight: IP-based NDVR System
- Avigilon Alta (formerly Openpath) Keyless Door Access Control System
- Hikvision Thermal/Optical Bi-Spectrum Scanners w/NVR Storage

Maintenance

- SchoolDude Maintenance Request Management
- SchoolDude IT Help Request Management

Transportation

- Transfinder RouteFinder Pro

Accounting

- Systems 3000

Voice

- Alcatel-Lucent Hybrid VoIP Communication System
- Comcast Corporation
- T-Mobile

Videoconferencing

- Cisco Business Edition 6000
- Cisco Expressway-E
- Cisco Expressway-C
- Cisco Webex
- Google Meet
- Microsoft Teams (Windows & iOS Devices)
- FaceTime (iOS Devices)
- Zoom Meetings & Webinar

Video-On-Demand

- Discovery Education
- Safari Montage Content Management Server
- Safari Montage IP/TV Encoder
- You Tube

Appendix C: Software Resources – Instructional Courseware, Databases & Tools

Instructional Courseware and Productivity Tools purchased for use in schools or subscribed to as an online service (indicates iPad App*):**

Reading / Language

- 3rd Grade Reading Comprehension Prep*
- 4th Grade Reading Comprehension Prep*
- 5th Grade Reading Comprehension Prep*
- ABC Balloons & Letters*
- ABC Genius - Preschool Games for Learning Alphabet Letters and Phonics*
- ABC MAGIC PHONICS-Learning Sounds and Letters*
- ABC Magnetic Alphabet Lite for Kids - Learn to write!*
- ABCmouse.com - Early Learning Academy*
- ABCmouse.com - Music Videos*
- ABC Ninja - The Alphabet Letters and Phonics Slicing Game for Kids*
- ABC Photo Touch*
- ABC Phonics Long Vowel Words*
- ABC Phonics Rhyming Words Lite*
- ABC Phonics Word Family Free*
- ABC Spelling Magic Short Vowels*
- ABC Tracer Lite Free Alphabet*
- ABCya Games*
- Action Words*
- Aesops Fables*
- All About Letters Interactive Activities*
- Alphabet Aquarium Early Reading Letters Adventure A to Z*
- Alphabet Flashcards*
- Alphabet Match*
- Alphabet Tracing*
- Apple Books*
- A+ Spelling Test*
- Audible: Audio Books, Original Series, and Podcasts*
- Audio Memos Free - The Voice Recorder*
- Big or Small Lite*
- Bitsboard - Education, Games, and Flash Cards App*
- Bluster!*
- Boddie*
- Book Creator for iPad*
- Book Buddy Library Manager*
- Book Buddy Pro*
- BookPress - Best Book Creator And Story Maker Tool*
- Book Builder*
- Book Creator for iPad*
- BrainPOP ELL*
- BrainPOP Featured Movie*
- Brainzy*
- Build a Word Express*
- Build-it-up*
- Caboose Express: Patterns and Sorting for Preschool*

- Catchy Words AR*
- Cat in the Hat*
- Charades! Guess Words with Kids*
- Chuck Wagon Bill
- CleanUp Category Sorting*
- Common Core Standards*
- Common Lit
- Comparative Adjectives*
- Cursive Practice*
- Cursive Words*
- Cursive Writing*
- Daily Quote*
- Dictionary.com*
- Door 24 Plus*
- Dr. Suess Lite*
- Draw and Tell*
- Educreations*
- Elmo Loves ABCs Lite*
- Elmo's Reading
- Endless Reader*
- English Grammar for Kids*
- English Idioms Illustrated*
- Epic*
- Everyday Social Skills*
- First Words Sampler*
- Four Letters*
- Fry Words*
- Fun English Language Learning & ESL Games for Kids*
- Fun Rhyming*
- GoodReads: Book Recommendations & Review for Great Books and eBooks*
- Grammar Express: Parts of Speech*
- Grammar For Kids - Learn Parts of Speech*
- Grammar Fun*
- Grammar Jammers Primary Edition*
- Grammar Pop*
- Grammar Quiz - Elementary K-5*
- Grammar Up*
- Grammar Wonderland*
- Grammar Wonderland Primary*
- Grammarly*
- Grammaropolis*
- Green Eggs and Ham*
- Guided Reading*
- Haiku Deck*
- Hairy Letters*
- HMH eTextbooks
- HMH Player*
- Hooked on Words*
- Hooked on Phonics - The #1 Learn to Read Program*
- I Can Write 2*
- iBooks*
- Inference Ace: Reading Comprehension Skills & Practice for Struggling Readers*
- Inspirational and Motivational Quotes - Daily Quote of the Day*

- iReady – Reading
- iSequences Lite*
- iTooch Language Arts*
- iTranslate Translator*
- IXL English
- iTooch 5th Grade Language Arts*
- iWriteWords Lite*
- IXL- Math & English*
- K12 Timed Reading Practice Lite*
- Kids A-Z*
- Kimico's Book Buddy*
- Kindergarten Reading, Tracing and Spelling*
- Kindle*
- Learn to Read – Duolingo ABC
- Learning Ally Aaudiobooks*
- Let's Name Things Fun Deck*
- LetterForms*
- Letter Quiz*
- Letter School*
- Lists for Writers - Ideas for Creative Writing*
- Little Matchups ABC - Alphabet Letters and Phonics Matching Game*
- LITE - Free Educational Game for Kids*
- Little Writer*
- Mad Libs*
- Magic Spell – 300 First Words*
- Magnetic ABC*
- Main Idea - Sentences: Reading Comprehension Skills & Practice Game for Kids*
- Main Idea - Short Texts: Reading Comprehension Skills & Practice Kids Game*
- Making Sequences*
- MiniMod Parts of Speech*
- Mobymax*
- Monkey Preschool Explorers*
- "My First Incredible, Amazing Dictionary"
- My Grammar Lab*
- My Note Games*
- MyScript Calculator - Handwriting calculator*
- My Spelling Test*
- OG Card Deck*
- Partners in Rhyme for Schools*
- PBSKids*
- Peek-A-Boo Studios – Reading 3,4,5*
- Phonics and Reading With McGuffey I*
- Phonics Awareness: 1st Grade*
- Phonics Fun Farm Games: Letter Sounds, Sight Words*
- Phonics Genius*
- Phonics Island, Letter Sounds games & Alphabet Learning: Preschool Kids Reading*
- Phonics Tic-Tac-Toe*
- Phonics Vowels – Short Vowels Lite*
- Play and Learn English letters*
- Playwords Lite ~ First Words, Reading and Spelling*
- Plurality*
- Pocket Phonics*
- Practice English Grammar*

- Preschool Phonics All In One!
- Professor Garfield Fact or Opinion*
- Quizlet: Flashcard & Language App to Study & Learn*
- RAZ-Kids*
- Read Naturally Live!*
- Read & Write for iPad*
- Read Anywhere*
- Reading Blaster Network
- Reading Comprehension Prep*
- Reading Eggs*
- Reading Rainbow Skybrary Family*
- Real Vocabulary*
- Reflex*
- RAZ-Kids*
- Savvas Realize Reader*
- Scholastic Book Fairs*
- Scholastic Classroom Magazines*
- Scholastic Reading Timer*
- Schoology*
- Scramble with Friends*
- Sentence Maker*
- Sentence Reading Magic*
- Short Vowels - Learn to Read*
- Sight Words: Kids Learn*
- Sight Words 1-300: Kids Learn*
- Sight Words 2: 140+ Learn to Read*
- Sight Words by Photo Touch*
- Sight Words Free - Dolch Cords Cards*
- Sight Words Learning Games & Reading Flash Cards*
- Sight Words List - Learn to Read Flash Cards & Games*
- Sight Words: Match for 3-8 Years*
- Sight Words Ninja - The Endless Slicing Game to Learn to Read*
- Skill Builder Spelling*
- Social Skill Builder*
- Sock Puppets*
- Sound Literacy*
- Spark Reading for Kids*
- Spell Color : Spell Words, Color Grid*
- Spell Mania - Word Spelling Games and Boggle Trainer*
- Spelling Bug*
- Spelling City*
- Spelling Grade 1-5*
- Spelling Magic 2*
- Spelling Notebook*
- Spelling Test*
- Spellosaur*
- SP: Dreamscape*
- S.P.I.R.E. Touch Phonics*
- SplashLearn: Reading*
- Spy Sam Reading Book 1 - The big adventure with little words for kids to learn to read*
- Spy Sam Reading Book 2 - The Struggle for Jess*
- Spy Sam Reading Book 3 - Into the Den*
- Square Panda Bowling*

- Square Panda Fishing*
- Square Panda Lagoon*
- Starfall*
- Story Creator - Easy Story Book Maker for Kids*
- Storylines for Schools*
- Study Island – Reading
- Sumdog - Spelling*
- TagCloud*
- Teach Your Monster to Read*
- Tell a Tale*
- The ABC Song - Educational activities & sing along*
- Things to Think About*
- Think Central Journeys
- Tic Tac Toe Phonics*
- ToonTastic*
- Vocab Genius*
- Voice Memos*
- Word Wrap*
- WordSearch Unlimited*
- Word Wonderland*
- Study Island
- StudyBlue - Online Flashcards and Study Guide App*
- Wet-Dry-Try Handwriting*
- WH Questions*
- Wiggleworks K-2
- Word Muncher's Deluxe
- Wattpad - Free Books and eBook Reader*
- Wheels on the Bus HD*
- Word BINGO Lite*
- Word Clouds by ABCYa.com*
- Word Salad - Smart Word Clouds*
- Word Search For Kids - Puzzle Games*
- Word Wagon HD - by Duck Duck Moose*
- Word Wizard - Kids learn to spell with talking alphabets, spelling tests & fun phonics games*
- Wordrop*
- Wordsalad - Beautiful word clouds - Lite Edition*
- World's Worst Pet – Vocabulary*
- Write About This*
- Workbook for Kids*
- World's Worst Pet – Vocabulary*

Math

- 10 More Than, 10 Less Than*
- 1st Grade Math – Numbers, Counting, Adding & More*
- 2 Times Fun*
- 2048 Number Puzzles & Games*
- 24 Game Math Card Puzzles*
- 2nd Grade Math – Addition, Subtraction & Kids Games*
- 3rd Grade Math - Multiplication, Fractions and More*
- 5th Grade Math - Fun Multiplication, Fractions & More*
- Aaah! Math Zombies*
- Addition*
- Addition & Subtraction For Kids - First Grade Math*

- A Math Regrouping App: Addition and Subtraction*
- Ace Kids Math Word Problems*
- Ace Math Flash Cards*
- Aaah! Math Zombies*
- Alchemy – non logical puzzle*
- Algodoo*
- Amazing Coin(USD): Educational Money Learning & Counting Games for Kids Free*
- Ants*
- ArithmeTick - Math Flash Cards*
- Base Ten Blocks Math*
- Basic Fractions*
- Basic Math with Mathaliens*
- Beat the Computer*
- Bitsboard Flashcards & Games*
- Boom Cards*
- Brainzy*
- Calculator*
- Caboose Express: Patterns and Sorting for Preschool and Kindergarten*
- Chocolate Chip Cookie Factory: Place Value*
- Common Core Standards*
- Connect the Dots*
- Coolmath Games*
- Count Money!*
- Counting 123*
- Counting and Skip Counting*
- Counting Money*
- Desmos Graphing Calculator*
- Divisibility Dash*
- Division ! !*
- Door 24*
- Equivalent Fractions*
- Elmo Loves 123s Lite*
- Factor Samurai*
- Fast Facts Addition*
- Fast Facts Division*
- Fast Facts Multiplication*
- Fast Facts Subtraction*
- First Grade Math Challenge - Barnyard Edition*
- Flash Cards*
- Fourth Grade Splash Math Education Learning Games*
- Fraction Calculator Plus*
- Fractions*
- Front Row Math & English Language Arts*
- Fruit vs. Robot Trivia*
- GeoBoard*
- Geometry Dash*
- Geometry Pad*
- Grades K-5 Kids Math Games*
- Graphing Calculator*
- Hungry Fish*
- Interactive Telling Time Lite*
- Inventioneers*
- iReady - Math

- IXL-Math*
- K-5 Math Learning Kids Games*
- Kakooma*
- Khan Academy*
- Kahn Academy: Algebra I*
- Kahn Academy: PreAlgebra*
- Key Skills
- Kids Numbers & Math: Add & Subtract*
- Know Your Math Facts*
- Learning Gems - My Piggy Bank*
- Learning Though Sports*
- Let's Tan (Tangrams)*
- Lobster Diver: Fractions & Decimals*
- Logic Quiz*
- Logic Solving*
- Lola's Math Train - Learn Numbers, Counting, Subtraction, Addition and more!*
- Madagascar Math Ops*
- Mads 24*
- Marble Math*
- Math 24*
- Math Academy*
- Math Adventure with Fast Facts*
- Math Animations (Grades 1-8)*
- Math Animations Pro*
- Math Arena
- Math Bingo*
- Math Blaster HyperBlast 2 HD*
- Math Blaster Ages 6-9
- Math Blasters Ages 8-13
- Math Bug Free*
- Math Cards ! !*
- Math Challenge 1: Addition*
- Math Circus*
- Math Contenders: Decimals*
- Math Doodles*
- Math Drills Lite*
- Math Essentials I & II
- Math Explore*
- Math Flash Cards !!*
- Math Flash Cards Puzzles*
- Math Geometry*
- Math is fun: Age 3-4*
- Math Kids*
- Math Monsters – Bingo*
- Math Ninja HD*
- Math Number Training Games for Kids - Simple Plus & Minus*
- Math Puppy - Bingo Challenge Educational Game for Kids HD*
- Math Slide: Addition & Subtraction*
- Math Slide: Basic Facts School Edition*
- Math Slide: Hundreds, Tens & Ones*
- Math Slide: Multiplication & Division*
- Math/Splash Math Grade 5*
- Math Telling Time Clock Game*

- Math Word Problems - Addition and Subtraction for Kindergarten and First Grade*
- Math24 - A Puzzle of Math 24 by 4 Cards*
- MathBoard*
- MathBoard Addition*
- Mathmateer*
- Maths 24/7*
- Mathseeds*
- MC eMath*
- MEGA Multiplication*
- Mickey Mouse Clubhouse: Mickey's Wildlife Count Along*
- Mobymax*
- ModMath*
- Money Pieces*
- Motion Math Numbers: Addition*
- Motion Math: Hungry Fish Pro*
- Motion Math: Pizza!*
- Motion Math Zoom*
- Multiplication*
- My Math Flash Cards*
- Number Cruncher
- Number Frames*
- Number Line by the Math Learning Center*
- Number Pieces Basic*
- Numbers*
- Numbers Recovered
- Numbers Undercover
- Numbler*
- Oh No! Fractions*
- Operation Math Code Squad*
- Panther Math Paper*
- Park Math HD - by Duck Duck Moose*
- Pattern Shapes*
- Pearson eText*
- Pearson Realize - Math
- Penguin Mathematics*
- Photomath - Camera Calculator*
- Pizza Fractions 1*
- Place Value Fish*
- Place Value MAB*
- Preschool Puzzle Math*
- Prodigy Math Game*
- Protractor Tool*
- Quick Math - Multiplication Table & Arithmetic Game*
- Reflex*
- Rounding Whole Numbers*
- Sam Phibian*
- Script Calculator*
- Second Grade Splash Math Common Core Learning Game*
- SlateMath for Kids*
- Sling Math*
- Splash Math*
- SplashLearn: Math*
- Subtraction*

- StudyBlue - Online Flashcards and Study Guide App*
- Study Island - Math
- StudyPop*
- Sumdog - Math*
- Sushi Monster*
- Tables Quiz*
- TallyPad*
- Tangram Mania*
- Teaching Number Lines*
- Tell Time – Little Matchups Game*
- Telling Time +*
- The Calculator*
- The Hungry Caterpillar Counting*
- The Lemonade Stand*
- Third Grade Splash Math Learning Games & Practice*
- Tiggly Chef: Preschool Math Cooking Game*
- Timer+*
- Times Tables Game - Multiplication Study App*
- Tiny Chicken Learns Math*
- Tiny Tower - Free City Building*
- Todo Math*
- Tony Fraction's Pizza Shop*
- Top It*
- Touching/Counting Patterns Lite - TouchMath Adventures*
- Trading Cards*
- Venn Diagram*
- Virtual Manipulates*
- Virtual Manipulatives!*
- Virtual Nerd Mobile Math*
- Visa Financial Football*
- Wild West Math
- Wonder Bunny Math Race: 1st Grade App for Numbers, Addition and Subtraction*
- Wonder Bunny Math Race: 2nd Grade Learning App for Numbers, Addition, Subtraction, Multiplication and Division*
- Wonder Bunny Math Race: 3rd Grade Learning App
- Workbook for Kids*
- XtraMath*
- Yahoo Finance*

Science

- Amcrest
- Anatomy 4D*
- Animals 360*
- AniMathc: Animal Matching Game*
- BioNetwork: Virtual Microscope*
- Bounce Physics*
- Chromville*
- Color Uncovered*
- Compass for iPad*
- Dino Quest - Dinosaur Game with Fossil Dig & Discovery*
- Dinosaur Park - Jurassic Simulator Games For Kids*
- Dinosaurs 360*
- Discovery Education Techbook*

- EarthViewer*
- Elements 4D by DAQRI*
- Elements of Periodic Table
- Elevate Science K-5
- Everything Weather
- Expeditions by Google
- Farm Match for Kids*
- Frog Dissection*
- Gene Screen*
- goREACT*
- Happy Atoms*
- Home Sustainability Mobile Assessor*
- HudsonAlpha iCell*
- iCells (Plants, Animals, Cells)*
- iLearn Solar System HD*
- iLearn: Continents & Oceans*
- iNaturalist*
- Journey North*
- K12 Periodic Table of the Elements*
- Kids Planet Discovery*
- LeafSnap – Plant Identification*
- Living Earth*
- Mammals: A Multimedia Encyclopedia
- Merlin Bird I by Cornell Lab*
- Molecules*
- Molly the Fire Safety Dog*
- Magic Fluids Lite*
- NASA*
- Needit Feedit*
- NOVA Elements*
- NSF Science Zone*
- Nuclear*
- NumFun – Seeds*
- Oldify*
- Pearson Realize - Science
- Peekaboo Barn Lite*
- Periodic Table*
- Pocket Zoo with Live Animal Cams*
- Science Journal by Google
- Science Quiz*
- Science 360*
- Sound Uncovered*
- Spaceteam*
- Star Walk*
- Smithsonian*
- SmithsonianTTJunior*
- SmithsonianTweenTribune*
- Sonic Wave - Sonic Ultasonic*
- StudyBlue - Online Flashcards and Study Guide App
- The World of Cells*
- Trading Cards*
- U.S. Army STARS Elements – Fun with Chemistry*

Social Studies

- 50 US States Map, Capital Cities and Flags of the United States of America (USA) - American Quiz*
- All About the Holidays*
- Biography*
- Digital Citizenship*
- Disney American Presidents*
- Do I Have a Right?*
- Executive Command*
- Expeditions by Google
- FourColor2 – Puzzle of Four Color Theorum*
- Frontier Heroes - A Planet H game from HISTORY*
- Geo Touch: Geography Game to Learn the US State Maps, Capitals, and Countries of the World*
- Google Arts & Culture*
- Google Earth*
- Google Maps*
- History Channel*
- Inspiration Maps*
- Inspirational and Motivational Quotes*
- JigsawGeoUS 13 Original Colonies*
- Journey North*
- Let's be Social – Social Skills Development
- Map-Quiz* - add
- Map the World*
- McGraw Hill Connect Ed - Discovering Our Past: A History of the World
- McGraw Hill Connect Ed - History of the United States
- Mission Otzi*
- MissionUS: For Crown or Colony!
- National Geographic*
- National Geographic for Kids*
- National Geographic World Atlas*
- National Inspirer
- News-O-Matic EDU*
- Newsela: News and nonfiction at your reading level*
- Presidents vs. Aliens*
- Professor Garfield Cyberbullying*
- Professor Garfield Online Safety*
- Senet (AG)*
- SmithsonianTTJunior*
- SmithsonianTweenTribune*
- Stack the Countries*
- Stack the States*
- States and Capitals Quiz !*
- StudyBlue - Online Flashcards and Study Guide App
- TapQuiz Maps World Edition*
- Test Generator
- The Constitution*
- TIME for Kids Classroom*
- Timeline 3D*
- Timeliner
- Trading Cards*
- U.S. Revolutionary War Trivia*
- Win the White House*
- World Map for iPad FREE*

- Your Bill of Rights*

Art & Media

- Adobe Illustrator Draw*
- Adobe Photoshop Elements
- Adobe Photoshop Express*
- Adobe Photoshop Mix*
- Adobe Scan*
- Adobe Spark*
- Adobe Spark Video*
- Aging Booth*
- Animoto Video Slideshow Maker*
- Art of Glow*
- Art Maker*
- Autodesk Sketchbook*
- Awesome Voice Recorder for MP3/WAV/M4A Audio Recording*
- Awesome Xylophone Lite*
- Buncee*
- CamScanner HD*
- Canva Graphic Design & Photo Editing*
- Capture - Control Your GoPro Camera - Share Video*
- ChatterPix - by Duck Duck Moose*
- ColAR Mix*
- Collage Maker*
- ColorBox HD*
- Colorfy: Coloring Book for Adults and Girls*
- Color SlapPs*
- Color Uncovered*
- ColorBox HD*
- Comic Life 3*
- Comic Maker HD*
- Comic Movie - Cartoon Effects Movie Maker Apps*
- Color Uncovered*
- Concepts: Sketch, Design, Illustrate & Architect*
- Cricuit Design Space*
- Cubify Draw*
- Doc Scan HD - Scan PDF, Print, Fax, and Email*
- Doodle Buddy*
- Draw and Tell*
- DrawCast*
- Expeditions by Google
- FaceTalker*
- Flow Doodle*
- Flow Speed Control - Camera and Video Editor*
- FrameCast - Online Animation Studio, create stop motion animated videos with sound*
- Funny Movie Maker - Replace Your Face*
- Glogster - Multimedia Posters*
- Glow Draw*
- Google Arts & Culture*
- Google Drawings
- Google Photos*
- GoTalk NOW*

- Green Screen by Do Ink*
- Hello Crayons*
- iDoodle Card*
- Image Composer
- iMovie*
- InShot Video Editor*
- Insta Collage*
- iPhoto*
- Jigsaw Puzzles: The Greatest Artists*
- Keys to the Collection*
- Kid's Patterns*
- Kidpix: Save Your Kid's Art*
- Kine Mastser Pro Video*
- Learn to write Music*
- lino - Sticky and Photo Sharing for You*
- LiveCollage - Instant Collage Maker & Photo Editor*
- Magic Artist Studio
- Make Beliefs Comix*
- Mematic - Make your own meme, add captions to pictures, and create motivational posters!*
- MoMA Art Lab*
- MovieSpirit – Movie Maker Pro*
- Old Booth – Age Up Camera*
- Oldify – Old Face App*
- Padlet*
- Paper by FiftyThree*
- PDF Reader*
- Phonto - Text on Photos*
- PhotoCard by Bill Atkinson*
- Pic Collage*
- PicMonkey Photo Editor Design*
- Pinnacle Studio 10
- Production Pro*
- Professor Garfield Forms of Media*
- Quik – GoPro Video Editor*
- Quiver - 3D Coloring App*
- Sand Draw Sketch*
- Sketch Master - My Cartoon Photo Filter Avatar Pad & Pic Edit Booth*
- Sketch Nation Create*
- Snapchat
- Sock Puppets
- Splice - Free Video Editor + Movie Maker by GoPro*
- Stop Motion Studio*
- Tayasui Sketches School*
- TinkerCAD*
- Tiny Tap*
- Tellagami*
- ThingLink*
- Toka Life World*
- Toontastic 3D*
- Touchcast Studio*
- Ultimate Coaster 2*
- Veescope Live Green Screen App*
- Video Star*

- Web Recording Tool Lite*
- YAKiT Kids*
- YouTube - Watch and Share Videos, Music & Clips*
- YouTube Kids*

Music

- A to Z Music Videos*
- Auditory Workout*
- Auxy Studio*
- Awesome Voice Recorder*
- Awesome Xylophone Lite*
- Baa Baa Black Sheep*
- BandBlast - The Music Education Revolution*
- Children's Classics*
- Children's Classics (Beethoven)*
- Chop Builder*
- Classical Kids*
- Classical Music I: Master's Collection Vol. 1*
- Essential Elements Interactive*
- Figure - Make Music & Beats, Collaborate and Remix on Allihoopa*
- GarageBand*
- InShot Video Editor Music*
- InsTuner*
- iWriteMusic*
- iWriteWords*
- JazzBird LITE*
- Launchpad – Beat Music Maker*
- Learn to Write Music*
- Librivox Classical Music*
- Magic Piano*
- Magic Piano by Smule*
- Meet the Orchestra - learn classical music instruments*
- Monkey Tunes Simon Says*
- Musical Me!*
- Musical Terms*
- Music Maestro
- Music Theory*
- Music Theory Video Tutor*
- Music Tutor*
- Name That Note*
- Note-A-Lator*
- NoteWorks Lite*
- Orchestra Lite*
- OzoGroove*
- Pandora - Free Music & Radio*
- Piano 3D - Free Player Piano App with Songs, Lessons & How to Play Mode*
- Piano Tiles*
- Piano with Free Songs To Learn*
- Pocket Drums*
- Practific*
- Pro Metronome - Tempo Keeping with Beat, Subdivision and Polyrhythm for Musicians*
- ProductionPro*
- Qu-Control*

- Rhythm Cat Lite HD - Learn To Read Music*
- Rhythm Lite*
- Sonic Wave – Sonic Ultrasonic Sound Tone Generator*
- SoundCloud - Music & Audio*
- Sound Uncovered*
- Spotify Music*
- Staff Wars*
- Theory*
- Theory Lessons*
- Tiny Piano*
- Treble Cat Lite - Learn To Read Music*
- Tuner Lite by plusadd - The Ultimate Free Chromatic Tuner for Guitar, Bass, Ukulele and Violin
- Video Star*
- White Tiles 4: Piano Master2*
- Writing Music*
- YouTube - Watch and Share Videos, Music & Clips*
- Zoola Children's Classic Sampler*

Health and Physical Education

- Antistress – Relaxing Games
- BrainPOP
- BrainPOP Jr
- Brush My Teeth - Virtual Kids Healthy Dental Care Simulator*
- Calm*
- Dexcom Follow*
- Dexteria – Fine Motor Skills*
- Elevate - Brain Training*
- Fitness Gram 8.3
- GoNoodle*
- Health Tips*
- Inner Peace Self Help Anxiety*
- KINBALL*
- Let's be Social – Social Skills Development
- Magic Fluids Lite*
- Meditation Jar*
- Molly the Fire Safety Dog*
- Motivation Quotes - Daily Quotes*
- Motivational Quotes to think positive*
- My Bowling Scorecard*
- PositiveSwitch - Quotes to be positive*
- Relaxtopia: Relax with ambient sounds, lower your stress level, focus or sleep better*
- Toothbrush Timer*
- The Great Kindness Challenge*
- YouHue – Know Your Students*

World Languages

- Duolingo - Learn Languages for Free*
- Google Translate*
- Infinite Spanish*
- iTranslate Translator*
- National Geographic Kids Readers: Korean*
- Spanish 24/7 Language Learning*

- Spanish School Bus for Kids*
- Speak and Translate*
- Talking Translator*

Technology Education

- 123D Design*
- 3D Home Architect
- 3D Museum Viewer*
- Aeronautical Fundamentals
- AR Maker*
- Auto Sketch
- Bee-bot*
- Blockly for Dash & Dot Robots*
- Blue-Bot*
- Bridge Builder
- Car Builder
- CodeMonkey Jr*
- Coding for Kids*
- Code N Go Academy*
- Code.org
- CommonSense.org
- Cricut Design Space*
- Daisy the Dinosaur*
- Digital Citizenship*
- Encode: Learn to Code*
- EV3 Classroom LEGO Educatoin*
- Flight Path
- Flight Simulator
- Galactic Explorer*
- Go for Dash and Dots Robots*
- Grasshopper by Area 120*
- Hopscotch: Learn to Code Creatively and Make Games*
- Hopster Coding Safari*
- Kodable*
- LEGO Mindstorms Education EV3*
- Lightbot : Code Hour*
- LittleBits Invent*
- Micro:bit*
- MiP App*
- Ozobot*
- Path for Dash Robot*
- Ready: Make Games & Apps*
- Scratch*
- Scratch Jr.
- Spacecraft 3D*
- Space Shuttle
- Sphero*
- Sphero EDU – Coding for Sphero Robots*
- Sphero Draw N' Drive*
- Sphero Macrolab*
- SPRK Lightning Lab - Programming for Sphero Robots*
- Swift Playgrounds*
- The Way Things Work

- Things for Merge Cube*
- Tickle: Program drones, robots, LEGO, and Arduino!*
- Tiltball for Merge Cube*
- TinkerCAD*
- Tinycards Fun Flashcards*
- Toka Life World*
- Tynker - Code games. Control toys. Build anything!*
- Tynker for Schools - Coding for kids. Learn programming to make games, control robots and fly drones.*
- Website Warrior*
- Weebly*
- Wonder for Dash and Dot Robots*
- Xylo for Dash robot*

Keyboarding

- Mavis Beacon Teaches Typing
- Swype*
- TapTyping - typing trainer*
- TouchPal Keyboard - Type Fun With Emoji & Themes & Fonts*
- Type For Fun*
- Type Fun*
- Type to Learn

Special Ed

- 175 Fast Letter: Child Pattern Recognition
- ADHD & Autism Therapy for Kids*
- Albert HD
- AlienFaced - The Alien Face Booth*
- AnimalFaced - The Animal Face Booth*
- Autism Apps*
- Autism iHelp ER and EST*
- Autism iHelp – Colors*
- Autism iHelp - Comprehension*
- Autism iHelp - Language Concepts*
- Autism iHelp – Opposites*
- Autism iHelp – Play*
- Autism iHelp - Same and Different*
- Autism iHelp – Sorting*
- Autism iHelp - WH Questions*
- Autism iHelp - Comparatives & Superlatives*
- BoardMaker
- Brain Works
- Brilly*
- Bubble Guppies: Animal School Day HD
- CardSpeak*
- Chalk Walk
- Clicker
- Color SlapPs*
- Co-Writer
- Cut the Buttons HD
- Dexteria - Fine Motor Skill Development
- Dora ABCs Vol 1: Letters
- Draft Builder

- Dragon Dictation/Anywhere*
- Dropbox - Backup, Sync, Share
- DynaVox
- Eararobics
- EdMark Reading
- Fast ForWord & Progress Tracker
- FileMaker Go 15
- Functional Communication System*
- Funny Tongue Twisters
- Geo Sketch Pad
- Goals & Objectives Writer for Brigance Diagnostic Inventory-Basic Skills
- Goals & Objectives Writer for Brigance Diagnostic Inventory-Early Development II
- GoTalk Now
- GoTalk NOW PLUS
- Hourglass
- I Can Write 2
- InferQuest Pro: Fun Adventures with Inferences and Reasoning Questions*
- Inspiration
- iSEQUENCES*
- JAWS
- Kangaroo Island Classifying*
- KITE Client*
- Kite Student Portal
- LAMP Words For Life
- Learning Ally Audio*
- Learning Ally Link*
- Let's be Social - Social Skills Development*
- Letter Quiz Preschool Alphabet & Letters Learning
- Letter Quiz School Reading, Spelling and Tracing Educational Program
- Learning Games with Learn to Read Flash Cards
- Endless Puzzle & TeachMe Alphabet Song for Kids
- Hooked on Letters in Preschool, Kindergarten and 1st Grade Children by Abby Monkey®
- Letters Laptop A to Z · TeachMe Alphabet, ABC Lett
- LetterSchool - Block Letters
- Look and Find® Elmo on Sesame Street for iPad
- Marble Math Junior
- Minimal Pairs Academy
- Model Me Going Places 2*
- Monkey Math School Sunshine T
- Monkey Preschool Fix-It
- Monkey Preschool Lunchbox
- My Play Home Life*
- Number Pieces, by MLC
- Number Pieces, by the Math Learning Center
- Numbers with Nemo
- OG Card Deck
- Opposites Adventure*
- Panther Calculator
- PBS KIDS Video
- Peekaboo Barn
- Peekaboo Barn Farm Day

- Phonics Fun Farm Games: Letter Sounds, Sight Words
- Preposition Builder Master*
- Pro Connect*
- Proloquo2Go
- Q-Interactive Assess*
- QuestionIt*
- Quick Math - Multiplication Table & Arithmetic Game
- R intensive Pro
- Read2Go
- Reading Comprehension Camp
- Reading Eggs - Learn to Read
- Reading Eggs Student
- Ready to Print T
- Sand Draw: Beach Creativity*
- Scribblenauts Remix - CST
- See.Touch.Learn.*
- Sensory Room* -add
- Sentence Builder for Special Needs Children*
- Shelby's Quest*
- Sight Words & Phonics Reading - CST
- SlateMath for Kids - Kindergarten and 1st Grade Games
- Slide & Spin - CST
- Slime Simulator*
- SMART Notebook for iPad
- Sono Flex
- Space Coders*
- Speech Air – Text to Speech*
- Speech Tutor Pro*-add
- Speechify – Audio Text Reader*
- Subtraction ! !
- Subway Surfers*
- SuperNote Notes Recorder+Photo
- Syllables Splash
- Syntax City
- TapTyping - typing trainer
- Teaching Made Easier
- TeachMe: Kindergarten
- The Lemonade Stand
- Touch Trainer*
- TouchChat HD - AAC with WordPower
- TouchChat HD - Lite
- TouchWindow
- VB-MAPPv1
- VisionSim by Braille Institute*
- VocabularySpellingCity
- Voice Aloud Reader*

- Voice Dream Reader
- VowelViz Pro
- WH Question Cards Pro*
- Write Out Loud
- Writing with Symbols
- Yes/No from I Can Do*
- YouHue*

Research/Organization

- BrainPOP*
- BrainPOP ELL*
- BrainPOP Featured Movie*
- Brain Pop Jr*
- Cavendish Square
- Chegg Study*
- Cisco IP/TV
- ClassDojo*
- Compton's Encyclopedia
- Cricuit Design Space*
- Destiny Discover*
- Destiny Quest*
- Dictionary.com Dictionary & Thesaurus for iPad*
- DigitalCurriculum
- DOGOnews*
- EasyBib, for iPad*
- EBSCO
- Encarta
- Expeditions by Google
- Facts on File (includes Maps Online and Science Online)
- Follett Destiny*
- FreedomFlix
- Gale eBooks
- Gale In Context
- Goodreads - Book Recommendations and Reviews*
- Google Calendar*
- Google Earth*
- Google Keep*
- Google Maps - Navigation & Transit*
- Grolier's Online
- Home Sustainability Mobile Assessor*
- Hoopla Digital*
- HowStuffWorks*
- iFile Organizer*
- Kids Discover*
- MacinVA*
- MacMillan McGraw-Hill Science Book Online
- MacMillan McGraw-Hill Social Studies Book Online
- Merriam-Webster Dictionary HD
- Micro Focus Filr*
- Microsoft Bookshelf
- National Geographic
- National Geographic World Atlas*

- Newsela: News and nonfiction at your reading level*
- NoodleTools
- Notability*
- Note-A-Lator*
- Notes: Supernote Recorder, Notes, Photos Notepad*
- Paper by FiftyThree - Sketch, Diagram, Take Notes*
- PaperPort Notes*
- Pearson BouncePages*
- Pearson Dash*
- Pearson eText*
- Popplet Lite*
- Safari Montage, Image Gallery
- ScienceFlix
- Seesaw: The Learning Journal
- SmithsonianTTJunior*
- SmithsonianTweenTribune*
- TED*
- Teen Resource Center
- TIME for Kids Classroom*
- Webpath Express
- World Book Online

Problem Solving

- Big or Small Lite*
- Caillou House of Puzzles*
- Caillou Search & Count Hidden Objects*
- Cargo-Bot*
- Checkers*
- Chess*
- Chess Academy for Kids*
- Chocolate Chip Cookie Factory*
- Circadia*
- Cooking Mama Lite*
- Color Switch*
- Creative Shapes: Puzzles for Kids*
- Decide Now!*
- Desert Drop*
- Dice*
- Fantastic 4 In A Row*
- Flow Free*
- FourColor2 – Puzzle of Four Color Theorum*
- Funbrain Jr.*
- Garfield's Diner Hawaii*
- Heads Up!*
- I am lost – GeoGuessr*
- Inspiration
- Inspiration Maps*
- JogNog*
- Jumbline 2*
- Kahoot!
- Kidspiration
- Kids Puzzles Games Puzzingo*
- Kis Zoo Puzzle Learning Games*

- LetsTans Classic*
- Little Finder*
- Madagascar Math Ops
- Minecraft: Education Edition*
- My First Tangrams HD - A Wood Tangram Puzzle Game for Kids*
- Pocket Tangrams*
- PuzzleBits*
- Puzzle Pop*
- Real Solitaire Free for iPad*
- Quizizz: Play to Learn*
- Scribblenauts*
- Shape Builder - the Preschool Learning Puzzle Game*
- Sushi Monster*
- Symbaloo*
- The Creator*
- Unblock Me
- UNO & Friends*
- Wowzers*

Productivity

Word Processing / Desktop Publishing

- Adobe PageMaker
- Book Creator*
- CamScanner*
- DocuScan*
- Educreations*
- Glogster*
- Google Docs*
- Google Drawings
- Kindle*
- Jamboard*
- List for Writers*
- Microsoft Lens/PDF Scan*
- Microsoft One Drive
- Microsoft OneNote
- Microsoft Publisher
- Microsoft Word
- Office Lens*
- Pages*
- Pic Collage*
- Print Artist
- QR Code Reader & Barcode Scanner*
- QR Code Reader & QR Scanner*
- QR Reader for iPad*
- ShowMe Interactive Whiteboard*
- Tag Cloud*
- The Print Shop Premier
- Ultimate Writing and Creativity Center

Multimedia Presentations

- Adobe Premier Pro
- Adobe Elements
- Animoto Slideshow Maker*

- Buncee*
- Canva*
- Collage
- EasiNote
- EasiCapture
- Educreations*
- Explain Everything*
- Google Drawings
- Google Photos*
- Google Slides*
- Haiku Deck Presentation and Slideshow App with Beautiful Charts and Graphs*
- i-Prompt Pro
- iTunes U*
- Keynote*
- Microsoft PowerPoint
- Microsoft Sway
- Microsoft Visio
- Nearpod*
- Microsoft Movie Maker Live
- Podcasts*
- Prezi Lite Editor*
- Prezi Viewer*
- ProConnect*
- RWT Timeline*
- ScreenChomp*
- ShowMe Interactive Whiteboard*
- SMARTNotebook
- Snowflake
- Voice Recorder*
- Whiteboard Lite: Collaborative Drawing*
- YouTube*

Spreadsheets
- Google Sheets*
- Microsoft Excel 2016
- Numbers*

Database
- Microsoft Access 2016

Video Conferencing
- Google Meet
- Skype for Business

Drives
- Google Drive*
- Micro Focus Filr*
- Microsoft OneDrive*
- Microsoft Sharepoint*

Classroom Management
- Apple Classroom*

- Apple iTunes University*
- Classcraft*
- ClassDojo*
- Decide Now*
- DRC Inssight*
- Edmodo*
- Edpuzzlle*
- Frontline Education*
- Google Classroom*
- GooseChase*
- GoReact*
- HMH Player*
- Kahoot!*
- Kids A-Z*
- Microsoft Classroom (OneNote)*
- Microsoft Teams*
- Quizizz*
- Quizlet*
- Remind*
- Schoolwork*
- Seesaw*
- Showbie - Paperless Classroom*
- Socrative*
- StudyPop*
- TeachQuest*
- TES Teach with Blendspace*
- Testnav*

Early Learning

- 123 Toddler Games for 2+ Years
- 175 Fast Letter: Child Pattern Recognition
- ABC – Magnetic Alphabet Lite*
- ABC –Alphabet Phonics*
- ABC – Animal Toddler Adventures*
- ABC – Balloons & Letters*
- ABC – Genius – Preschool Games for Learning Letters*
- ABC – Magic Phonics*
- ABC – Spelling Magic*
- ABC – Tracer Phonics Coloring Book*
- ABC Mouse – Early Learning Academy*
- ABCya Games*
- Alphabet Match*
- AlphaTots Alphabet*
- Bubble Wrap*
- Build it Up*
- Busy Shapes & Colors*
- Caboose Express: Patterns and Sorting for Preschool*
- Coloring Farm Animals: Coloring Book for Kids*
- Dexteria – Fine Motor Skills*
- EduKitchen – Toddlers Food Games*
- Farm Match for Kids*
- Fish School – 123 ABC for Kids*

- Fun Bubbles Lite*
- iTouchlearn Feelings for Preschool Kids*
- iTouchlearn Words for Preschool Kids*
- Itsy Bitsy Spider*
- Kids ABC Shapes Toddler Learning*
- Learning Videos by Story Bots*
- Letter Sounds 1: Phonics Graphemes for Beginners
- Letter Tracing*
- LetterSchool – Block Letters*
- Little Machups ABC
- Monkey Preschool Explorers*
- Monkey Preschool Fix It*
- Monkey Preschool Lunchbox*
- Montessori – Rhyme Time Learning*
- Moose Math – Duck Duck Moose*
- My PlayHome*
- Nick Jr.
- Old MacDonald Had a Farm HD*
- Partners in Rhyme*
- Peek-a-Zoo HD*
- Phonics Fun on Farm*
- Phonics Genius*
- Phonics Island*
- Preschool Games: EduKidsRoom*
- Preschool Learning Games*
- Read me Stories – Children's Books*
- ShapeBuilder*
- Sight Words 1-100*
- Sight Words 1-300*
- SmartBaby
- Square Panda - Bowling*
- Square Panda - Fishing*
- Square Panda - Lagoon*
- Starfall*
- Touch and Learn Emotions
- Trucks*
- Wheels on the Bus*
- Word Wagon*

Appendix D: Hardware & Software Maintenance Contracts

Computers/Tablets

- Cisco UCS (Hyperflex) Servers – Cisco SMARTnet
- PC Workstations, Notebooks & Tablets – 1-3 year on-site warranty repair
- iPad Tablets & iMac Notebooks – 3 year Apple Care protection

Communications Equipment

- Cisco SMARTnet – ASR Router, Catalyst Switches, FTD Firewall, WLAN Controllers & Wireless Access Points
- RFP Solutions – Telephony Systems / Video Surveillance Equipment

Backup, Restore & Disaster Recovery

- Unitrends – Recoery-823 Backup Appliance

Videoconferencing Equipment

- Cisco SMARTnet – Cisco Business Edition 6000 Server, SX10 Endpoints, DX80 Endpoints, DX70 Endpoints, Room Kit Plus Endpoint, Room Kit Mini

Software (Local) Support Services

- Systems 3000 – Accounting/Payroll System
- Micro Focus – eDirectory, OES2 for Linux, ZENWorks, Storage Manager
- SUSE – SUSE Linux OS
- Microsoft – Windows servers & desktop operating systems, and Office applications
- Genesis Educational Services & Oracle –Genesis Student Database Server & Web Applications
- Lunchtime Software – Lunchtime & Parent Portal food services applications
- Follett – Destiny Library Manager & Content – elementary & middle school library automation
- Jamf Software – Jamf Pro Mobile Device Management System
- Safari Montage - Content Management – elementary & middle school media content distribution
- Novacoast – Universal Imaging, Identity Manager
- Dyntek - Cisco Systems Products and Services

ASP (Hosted) Software Support Services

- Cisco Systems Security Enterprise Agreement
  - AMP for Endpoints
  - Cloud E-Mail Security
  - Umbrella Web Security
  - Identity Services Engine (ISE)
  - Cloudlock Content Security
  - DUO MFA
- FinalSite Web Content Manager – Academic Portal (website) and content management tools
- Blackboard Parent Link – Parent / Staff Notification System (Autodialer)
- Frontline – IEP Management for Special Education; Staff Attendance & Substitute Management

- Effective Educators – iObservation Staff Evaluation Management
- ELAN Online – Strauss Esmay Associates BOE Policy Archive
- SchoolDude –IT Help and Maintenance Request Management
- Transfinder – RouteFind Pro student transportation management

Out-of-Warranty Service

- In-house technician & other staff

Appendix E: Technology Related Board Policies

All current district policies and regulations may be accessed here:

https://www.straussesmay.com/seportal/Public/DistrictPolicySearch.aspx?id=61b990650928490592c6d16b009edc3f

Relevant policies include, but are not limited to the following:

Policy	Content
0170 AUDIO - VIDEO PARTICIPATION BY BOARD MEMBERS AT PUBLIC MEETINGS	A Board Member may attend a public meeting of the Board by audio and/or visual connection if he or she is...
6470.01 ELECTRONIC FUNDS TRANSFER AND CLAIMANT CERTIFICATION	The Board of Education permits the School Business Administrator/Board Secretary to use standard...
8310 PUBLIC RECORDS	OPERATIONS 8310/page 1 of 6 Jul 99 Aug 10 R 8310 PUBLIC RECORDS The Board of...
1648.02 REMOTE LEARNING OPTIONS FOR FAMILIES	1648.02 REMOTE LEARNING OPTIONS FOR FAMILIES On July 24, 2020, the New Jersey Governor and...
3322 STAFF MEMBER'S USE OF PERSONAL CELLULAR TELEPHONES/OTHER COMMUNICATION DEVICES	The Board of Education recognizes a teaching staff member may need to electronically communicate on a...
4322 STAFF MEMBER'S USE OF PERSONAL CELLULAR TELEPHONES/OTHER COMMUNICATION DEVICES	The Board of Education recognizes a support staff member may need to electronically communicate on a...
4283	Communications of a sexual nature, sexually oriented humor or language, sexual advances, or content with a...

ELECTRONIC COMMUNICATIONS BETWEEN SUPPORT STAFF MEMBERS AND STUDENTS (M)	
3283 ELECTRONIC COMMUNICATIONS BETWEEN TEACHING STAFF MEMBERS AND STUDENTS (M)	Communications of a sexual nature, sexually oriented humor or language, sexual advances, or content with a...
3282 Use of Social Networking Sites	Jun 12 3282 USE OF SOCIAL NETWORKING SITES The Board of Education has a strong...
4282 Use of Social Networking Sites	SUPPORT STAFF MEMBERS 4282 Use of Social Networking Sites Jun 12 4282 USE OF SOCIAL...
9200 COOPERATION BETWEEN PARENTS AND SCHOOL	The Board of Education believes that the education of children is a joint responsibility that the Board...
8330 STUDENT RECORDS (M)	M 8330 STUDENT RECORDS The Board of Education believes that information...
5516 USE OF ELECTRONIC COMMUNICATIONS AND RECORDING DEVICES (ECRD)	PUPILS 5516/page 1 of 3 Nov 01 Aug 10 M The Board of Education believes pupils and/or...
2425 EMERGENCY VIRTUAL OR REMOTE INSTRUCTION PROGRAM (M)	2425 M The Board of Education is committed to providing a high quality educational program, ...
2361 ACCEPTABLE USE OF COMPUTER NETWORK/COMPUTERS AND RESOURCES (M)	Communications Commission: Children's Internet Protection Act Federal Communications Commission:...
2360 USE OF TECHNOLOGY	Communication (District) The school district shall provide communication between schools by a...
3321 ACCEPTABLE USE OF COMPUTER NETWORK(S)/ COMPUTERS AND	The Board recognizes that as telecommunications and other new technologies shift the manner in which...

RESOURCES BY TEACHING STAFF MEMBERS	
4321 ACCEPTABLE USE OF COMPUTER NETWORK(S)/ COMPUTERS AND RESOURCES BY SUPPORT STAFF MEMBERS	The Board recognizes that as telecommunications and other new technologies shift the manner in which...
8311 MANAGING ELECTRONIC MAIL	PROPERTY 7650/page 1 of 2 School Vehicle Assignment, Use, Tracking, Maintenance, and ...
1648.02 REMOTE LEARNING OPTIONS FOR FAMILIES	Communication must include, at a minimum, information regarding: a. Summaries of, a...
8310 PUBLIC RECORDS	OPERATIONS 8310/page 1 of 6 Jul 99 Aug 10 R 8310 PUBLIC RECORDS The Board of...
2363 Pupil Use of Privately-Owned Technology	data or information. "Hardware" may include, but is not limited to, any type of computer device;...
5516.01 STUDENT TRACKING DEVICES	data can be stored within the tracking unit or it may be transmitted to another location, including, but not l...
7481 UNMANNED AIRCRAFT SYSTEMS ALSO KNOWN AS DRONES (UAS)	data links, telemetry, communications and navigation equipment, etc. necessary to operate the UAS/Drone. ...
3283 ELECTRONIC COMMUNICATIONS BETWEEN TEACHING STAFF MEMBERS AND STUDENTS (M)	data assistant, or pager. "Electronic communications" include, but are not limited to, e-mails, text...
4283 ELECTRONIC COMMUNICATIONS BETWEEN SUPPORT STAFF MEMBERS AND STUDENTS (M)	data assistant, or pager. "Electronic communications" include, but are not limited to, e-mails, text...
6113 E-RATE	data used to calculate discounts in accordance with the eligibility requirements of the National School Lunch...

1648.02 REMOTE LEARNING OPTIONS FOR FAMILIES	data regarding participation in full-time remote learning. Data will include the number of students pa...
8311 MANAGING ELECTRONIC MAIL	data processed or image processed document, sound recording or in a similar device, or any copy thereof,...
7522 SCHOOL DISTRICT PROVIDED TECHNOLOGY DEVICES TO STAFF MEMBERS	acceptable use of technology policies and any other Board policies regarding appropriate and acceptable...
3283 ELECTRONIC COMMUNICATIONS BETWEEN TEACHING STAFF MEMBERS AND STUDENTS (M)	The Board of Education recognizes electronic communications and the use of social media outlets create new...
4283 ELECTRONIC COMMUNICATIONS BETWEEN SUPPORT STAFF MEMBERS AND STUDENTS (M)	In accordance with the provisions of N.J.S.A. 18A:36-40, the Board of Education adopts this Policy to provide...
9242 USE OF ELECTRONIC SIGNATURE	acceptable use of school district computers and administration of surveys; and/or acknowledge receipt and...
7523 SCHOOL DISTRICT PROVIDED TECHNOLOGY DEVICES TO PUPILS	acceptable use of technology policies, which shall be attached to the School District Provided Technology...