

West Hempstead Union Free School District



Instructional Technology Plan

2022-2025

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Table of Contents	Page(s)
WHUFSD Mission Statement.....	4
Introduction.....	4
Strategic Planning.....	4
Rationale for Technology at WHUFSD	5-7
Goal 1	6
Goal 2	6
Goal 3	7
Current Hardware.....	8-11
Current Network Infrastructure.....	12
Propose SMART BOND and ERATE Hardware Purchases.....	13
Proposed Hardware Purchases 2022-2023	13-14
Proposed Hardware Purchases 2023-2024	14
Proposed Hardware Purchases 2023-2024	115
New York State Computer Science and Digital Fluency Standards.....	16
Impacts of Computing.....	17-20
Computational Thinking.....	21-25
Networks and System Design	26-28
Cybersecurity.....	29-31
Digital Literacy.....	32-35
Instructional Software.....	36
Adult Education.....	36
Staff Development.....	37-38
Software/Web-Based Selection.....	38
Training and Technical Assistance.....	38-39
Software and Print Resources	39
Timeline.....	39
Costs/Budget	39-41
Administrative Network.....	41
Coordination.....	41
Parent Community Access	41
Parent Communication.....	41-42
Assessment and Evaluation.....	42-43
Internet Safety	44
Internet Safety & Acceptable Use Policy (AUP).....	45-51
Bring Your Own Device Policy.....	52-53
District Disaster	54-57
Appendix A: Network/Telecom Infrastructure Timeline	58-59
Appendix B: Three-Year Instructional Technology Roadmap	60-79

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INSTRUCTIONAL TECHNOLOGY EDUCATION COMMITTEE 2020-2021

The West Hempstead UFSD Technology Plan was developed and approved by teachers, parents, support staff, and administrators.

Vincent Fleck	Director, Technology
Joseph Cangemi	Director of STEM & Business Education
Dr. Katie DiGregorio	Director of ENL & Instructional Technology
Jeanellan Setera	Kindergarten Teacher, Chestnut Street
Gina Rafferty	ENL Teacher, Cornwell Avenue
Tracey Cousins	Reading Teacher, Cornwell Avenue
Dara Perlow	STELLAR Teacher, George Washington School
Howard Popkin	Grade 5 Teacher, George Washington School

WEST HEMPSTEAD UNION FREE SCHOOL DISTRICT
MISSION STATEMENT

The West Hempstead Union Free School District recognizes the unique value of each student. It is dedicated to the success of each student based on the highest standards of excellence in education. Each student will be challenged to achieve mastery in all subject areas in an educational atmosphere that strives to build positive self-esteem, mutual respect for others, and a life-long quest for learning.

Introduction

The West Hempstead UFSD is committed to the acquisition of new technologies. This will ensure that expanded technology-related purchases will support an integrated network effectively and efficiently. Students and adults in the West Hempstead UFSD will be able to effectively access the expanding worldwide network. The Instructional Technology Education Committee will review the plan to ensure equitable distribution of technology resources to support State content standards and student performance standards. Its recommendations will be forwarded to the Superintendent of Schools and the West Hempstead UFSD Board of Education.

STRATEGIC PLANNING

The West Hempstead Strategic Planning Council included an Educational Technology Subgroup, which focused on long-range district goals in the area of technology. See Appendix B for the goals outlined by the Council.

Rationale for Technology at West Hempstead Union Free School District

The WHUFSD seeks to create and foster a community of learners in which instructional technology promotes deeper learning, authentic work, student agency and personalization, and purposeful technology integration. The goal is to integrate instructional technology into well-designed learning experiences that creates highly engaged academic environments in which students are the drivers of their own learning experiences. The West Hempstead Union Free School District strongly emphasizes the importance of learning experiences for students that are designed to reflect the variety of learners in the classrooms. The purpose of instructional technology is to enhance the experiences of students and teachers, and act as the vehicle for deeper learning, authentic work, and student agency/personalization. Instructional Technology at WHUFSD creates opportunities for connection before content, acceleration, not remediation, rethinking success criteria in conjunction with student agency, higher-level thinking and authentic work. Instructional Technology is what fosters the community of learners in teachers, students, staff, administrators and community members.

District committees will be actively involved in the identification of technology tools, supporting software and age appropriate materials, which promote and facilitate content instruction aimed at improving instruction for all students. With content instruction as a goal, new instructionally related technologies will be identified, purchased, and installed in classrooms and media centers based on instructional priorities identified by the shared decision making teams, curriculum planners, the ITEC Committee and professional staff. Planning will include the identification of appropriate professional activities for district instructional staff, and the identification of technical support services and personnel required to deliver this instruction. Staff development will include the use of instructional hardware and software applications, and will be based on New York State *Computer Science and Digital Literacy Standards* in all content areas. Educational technology refers to the electronic tools that facilitate the process of gathering,

interpreting and communicating information, solving problems, expressing ideas, understanding concepts and being literate in the Information Age.

Goal 1: Integrate instructional technology into the K-12 classroom for the purpose of deeper learning and critical thinking by students:

Technology allows for differentiation and personalization of the learning process for all learners. Students with Disabilities and English Language Learners with the focus on deeper learning and critical thinking using instructional technology are able to access classroom content and make meaning that fits their individual needs. For example, using mobile technologies in the classroom allows students to expand their horizons outside the traditional classroom, and build networks with classrooms and communities all over the globe. The purpose of instructional technology for deeper learning and critical thinking promotes complex problem solving, and engaging in cognitively challenging tasks through instructional technology tools. Teachers design lessons that align with NYSED Computer Science and Digital Literacy Standards and ISTE Standards that promote inquiry-based, hands-on learning which is facilitated through instructional technology

Goal 2: Provide opportunities for professional development on instructional technology tools to engage students in metacognition, creative expression, deeper learning of content and grade-level material:

Provide opportunities for professional development on instructional technology tools to engage students in metacognition, creative expression, deeper learning of content and grade-level material. Providing teachers, the opportunity to hone their skills with instructional technology use and classroom implementation is essential to the overall success of designing inquiry-based, hands-on learning experiences with instructional technology. The goal is to support teachers and staff in determining the best tools to use for various instructional models, determining how students will showcase their understanding of the topics, and assess student learning using a variety of instructional tools.

Goal 3: Promote digital literacy and digital citizenship through the implementation of Habits of Mind Curriculum in grades K-12.

The COVID-19 instructional experience brought to the forefront the need for students, teachers, staff, and the community to hone their understanding of technological literacy and how to be responsible consumers and producers of information in a digital environment. In order to support students and staff, the district implemented a social emotional curriculum aligned with the 16 Habits of Mind. These Habits of Mind connect with instructional technology in how students and staff consume and produce information in a digital age. Through digital literacy and digital citizenship in the Habits of Mind curriculum, instructional technology enhances how students and teachers collaborate, create, solve problems, and critically evaluate information and data in an Information Age.

CURRENT HARDWARE 2021-2022

CHESTNUT STREET EARLY CHILDHOOD CENTER

<u>Classrooms</u>	1-2 Windows 10 computers 1 printer 1 document camera 1 interactive whiteboard
<u>Library Media Center</u>	1 interactive whiteboard 1 Windows 10 computer 1 distance learning system 1 printer
<u>Reading/ESL/Speech</u>	3 Windows 10 computers 2 printers 1 interactive whiteboard
<u>General Use</u>	1 Windows 10 computer 6 iPads carts 1 document camera with projector
<u>Inclusion Class</u>	1 document camera 1 digital camera 1 interactive whiteboard 1 wireless printer
<u>Music/Art/Gym</u>	1 Windows 10 computer each 1 printer for Physical Education 1 printer for Art/Music
<u>Main Office</u>	4 Windows 10 computers 1 printer 1 printer, copy, fax machine 2 copy machines

**CORNWELL AVENUE PRIMARY CENTER & GEORGE
WASHINGTON INTERMEDIATE SCHOOL**

<u>Classrooms</u>	1 to 3 Windows 10 computers 1 printer 1 interactive whiteboard
<u>Computer Carts</u>	9 Chromebooks Carts each
<u>Science</u>	1 interactive whiteboard
<u>Library</u>	4 Windows 10 computers 1 printer 1 interactive whiteboard
<u>ENL</u>	1 interactive whiteboard 1 iPad Cart
<u>Reading Room</u>	5 computers 1 interactive whiteboard 1 iPad Cart
<u>Auditorium/Cafeteria</u>	1 Projection AV system
<u>General Use</u>	4 3D Printers

WEST HEMPSTEAD SECONDARY SCHOOL (7-8)

<u>Classrooms</u>	1 Windows 10 computer 1 printer 1 interactive whiteboard
<u>Library</u>	5 Windows 10 computers 2 printers 1 interactive whiteboard 1 distance learning setup
<u>ENL</u>	1 interactive whiteboard 1 dedicated Chromebook Cart iPad Cart
<u>Computer Support Center</u>	8 Chromebooks 1 printer
<u>General Use</u>	17 Chromebook Carts 29 interactive whiteboards 1 document camera
<u>Faculty</u>	1 Windows 10 computer 1 printer
<u>Reading Room</u>	2 Windows 10 computers 1 interactive whiteboard

WEST HEMPSTEAD SECONDARY SCHOOL (9-12)

<u>Business RM 104 (Computer Lab)</u>	26 Windows 10 computers 2 printers 1 Copy Machine 1 interactive whiteboard
<u>Video Conference Room</u>	Plasma TV (50 inch) 1 video conferencing system 1 interactive whiteboard 1 ceiling mounted LCD projector
<u>Art Department</u>	Digital cameras Document cameras
<u>Classrooms</u>	1 computer in each room 37 interactive whiteboards
<u>ENL</u>	4 computers, 1 printer

1 interactive whiteboard

Dept. Office

1 computer per department office

1 printer

1 LCD projector

General Use

1 laptop cart

1 document camera

25 Chromebook Carts

1 high quality webcam

Current Network Infrastructure

- Dark fiber is built between our five Schools (over four miles of Single Mode fiber).
- Server Complex (centralized server farm maximizing performance and reduces cost).
- Continue to integrate Voice/Data solution for Chestnut Street School, Administration, George Washington and Cornwell Avenue School (VoIP/Ethernet system).
- Digital Ethernet PBX (Xorcom) with SIP service including new telephones, numbers, extensions, voicemail, snow line, Caller ID, e911 service, building to building transfers. Utilizing dark fiber build.
- Internet access in all buildings well over 3000+ Networked Devices.
- Combination of Multi-mode, Single mode, CAT 5 and CAT 5e, CAT6A wireless for our inside network connections. Fiber and CAT5 are installed in every classroom.
- Kindergarten through 5th grade classrooms have 2 to 3 Windows 10 PC's with one printer in every classroom.
- Our network backbone consists of trunked 40 and 10 Gigabit Ethernet switches.
- 10/100/1000 Switched Ethernet service is installed to all classrooms with computers or telephones.
- Our buildings are connected together at 10 Gigabit speeds (over 6000 times faster than a T1 line). 3000 Meg Internet Access.
- All schools share a Cloud based Email, Internet filter, Internet/Intranet connections, Video, and Application Servers.
- Distance learning/Multimedia room has an IP Video Conferencing system.
- Network Management is built into all main switches and monitored centrally.
- An improved backup system has been installed in a separate building in case of fire, flood or theft (250 Terabytes).
- Helpdesk and Remote management systems are in place on every computer in all buildings.
- Centralized database systems including Student information SIS, Library automation system, transportation system, eScholar, Frontline including IEPDirect/MLP/AESOP, Finance Manager nVision\TimePiece, bookroom, Reading assessment programs, Google Classroom\Microsoft Office 365
- See Addendum for schematic and network design.

PROPOSED SMART BOND AND ERATE HARDWARE PURCHASES

District-Wide

- Upgrade network infrastructure 40Gig POE switches with Smart-Rate 802.3.BZ
- Upgrade and expand 802.11AC wireless WAP's
- Add additional CAT6A wiring for WAP's, Intercom's, Clocks, Access controls and IP Cameras
- Deploy Access control system for all classrooms and perimeter doors
- Upgrade Wi-Fi Controllers
- Add Intercom/phones to all classrooms

PROPOSED HARDWARE PURCHASES 2022-2023

District-Wide

- Phase out all technology equipment five years and older.
- Create building spreadsheets of printers; provide additional printers.
- Continue to develop Website, Firewall security appliances.
- Expand use of interactive whiteboards.
- Add additional security cameras with video over IP connection and archiving to the network.
- Increase tablets and laptops/Chromebook compatible with instruction and assessment testing
- Increase E-Books for library
- More Instructional\ CBT for NYSESLAT & NYSITELL

Chestnut Street School Early Childhood Center

- Continue to maintain iPads\PC's to current models
- Additional document cameras.

Cornwell Avenue Primary Center & George Washington Intermediate School

- Upgrade existing door cameras with video over IP connection and archiving.
- In all buildings purchase and install video projectors, digital cameras, scanners, printers, computers, special needs and adaptive technologies where appropriate.
- Add digital projectors and laptops for instructional areas.
- Interactive whiteboards in all instructional areas.
- Expand use of iPads.
- Gradebook Pro

Secondary School (7-8)

- Replace existing classroom computers, where needed to allow the latest instructional software.
- Add SIP telephone lines.
- Increase EBooks for libraries.
- Interactive whiteboard in computer lab.
- Interactive whiteboards in classrooms.
- Maintain and purchase additional interactive whiteboards.

Secondary School (9-12)

- Upgrade older computers, where needed to allow the latest instructional software.
- Add additional cameras with video over IP connection and archiving.
- Purchase additional interactive whiteboards...
- Increase EBooks for libraries.
- Purchase printers (networked by wing).

PROPOSED HARDWARE PURCHASES 2023-2024

District-Wide

Phase out all technology equipment 5 years and older. Continue upgrading and maintaining network infrastructure as our technology needs continue. Improve Data Mining assessment programs. Deploy digital document system for tracking required records. Continue purchase of interactive whiteboards, netbooks, iPads, laptop carts, iPads, document cameras, digital cameras, and upgraded equipment. Expand E-Books in Middle School and High School and launch in elementary schools. Continue electronic report cards in elementary schools. Phase in upgraded enterprise level wireless system with CBT for NYSESLAT & NYSITELL ready machines.

PROPOSED HARDWARE PURCHASES 2024-2025

District-Wide

Phase out all technology equipment 5 years and older. Continue upgrading and maintaining network infrastructure as our technology needs continue. Improve Data Mining assessment programs. Deploy digital document system for tracking required records. Continue purchase of interactive whiteboard, Smart touchscreen TV, LCD projectors, laptop carts, tablets, iPads, document cameras, digital cameras, and upgraded equipment. Complete upgrade of our Enterprise level wireless system and CBT for NYSESLAT & NYSITELL ready machines.

New York State Computer Science and Digital Fluency Standards

The New York State Computer Science and Digital Fluency Standards allow for the West Hempstead Union Free School District to align existing curriculum materials with key components of 21st Century Learning. The State Standards consist of five key concepts of: Impacts of Computing, Computational Thinking, Networks & Systems Design, Cybersecurity and Digital Literacy. Each concept has two or more sub-concepts that are broken down into the various grade-bands. The West Hempstead School District in 2021-2022 began to infuse the standards in the grades K-6 Report Cards for STELLAR and will begin implementation into district curriculums starting in 2022-2023. The New York State Computer Science and Digital Fluency Standards include clarifying statements that provide clear, concise context for teachers, and students to understand how the standard may be blended into daily instruction.

The vision for the Computer Science and Digital Fluency Standards as per NYSED is:

Every student will know how to live productively and safely in a technology-dominated world. This includes understanding the essential features of digital technologies, why and how they work, and how to communicate and create using those technologies. (New York State Department of Education, 2020, p. 4)

The state vision with the implementation of these standards, aligns with the goal and mission of the use of instructional technology at the West Hempstead Union Free School District by emphasizing the importance of blending technology into the day to day instruction while promoting a community of learners that is able to deeply understand content, create authentic work products, advocate for student-directed learning and finally using technology in the appropriate way to expand their knowledge base.

Impacts of Computing

		Description	Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Society	Standard		<u>K-1.IC.1</u> Identify and discuss how tasks are accomplished with and without computing technology.	<u>2-3.IC.1</u> Identify and analyze how computing technology has changed the way people live and work.	<u>4-6.IC.1</u> Describe computing technologies that have changed the world, and express how those technologies influence, and are influenced by, cultural practices.	<u>7-8.IC.1</u> Compare and contrast tradeoffs associated with computing technologies that affect individuals and society.	<u>9-12.IC.1</u> Evaluate the impact of computing technologies on equity, access, and influence in a global society.
	Clarifying Statement		<i>Common tasks include sending a letter by email vs. post, taking a picture with a smartphone vs. camera, buying something with an app vs. with cash at a store.</i>	<i>The focus should be on how advancements in computing technology have changed careers and lives.</i>	<i>The focus should be on how computing technologies both influence and are influenced by society and culture.</i>	<i>Topics that could be addressed include, but are not limited to, free speech, communication, and automation.</i>	<i>The focus should be on how computing technologies can both perpetuate inequalities and help to bring about equity in society.</i>
	Standard		<u>K-1.IC.2</u> Identify and explain classroom and home rules related to computing technologies.	<u>2-3.IC.2</u> Compare and explain rules related to computing technologies and digital information.	<u>4-6.IC.2</u> Explain how laws impact the use of computing technologies and digital information.	<u>7-8.IC.2</u> Evaluate the impact of laws or regulations on the development and use of computing technologies and digital information.	<u>9-12.IC.2</u> Debate laws and regulations that impact the development and use of computing technologies and digital information.
	Clarifying Statement		<i>Rules could include when it's okay to use a device, what programs or apps are okay to use, how to treat the equipment, etc.</i>	<i>The focus is on having students understand why rules around computing technology can change depending upon the setting.</i>	<i>The focus is on how laws regulate the use of computing technologies and what might happen if those laws did not exist.</i>	<i>The focus is on the potential consequences of laws related to computing technologies.</i>	<i>The focus is on developing and defending a claim about how a specific law related to computing technologies impacts different stakeholders.</i>

Impacts of Computing

Description		Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Ethics	Standard	<u>K-1.IC.3</u> Identify computing technologies in the classroom, home, and community.	<u>2-3.IC.3</u> Discuss and explain how computing technology can be used in society and the world.	<u>4-6.IC.3</u> Explain current events that involve computing technologies.	<u>7-8.IC.3</u> Identify and discuss issues of ethics surrounding computing technologies and current events.	<u>9-12.IC.3</u> Debate issues of ethics related to real world computing technologies.
	Clarifying Statement	<i>The focus should be on recognizing familiar computing technologies that we use in our lives.</i>	<i>The focus is on examples of computing technology that were invented to solve broader problems in society, or existing technology platforms that can have many purposes.</i>	<i>Explanations should be grade level appropriate to ensure understanding of current events and the related computing technologies.</i>	<i>At this level, students may require teacher support to discuss the possible ethical implications of computing technologies.</i>	<i>The focus is on developing and defending a claim about a specific ethical dilemma related to computing technologies.</i>
	Standard	<u>K-1.IC.4</u> Identify public and private spaces in our daily lives.	<u>2-3.IC.4</u> Identify public and private digital spaces.	<u>4-6.IC.4</u> Explain who has access to data in different digital spaces.	<u>7-8.IC.4</u> Identify and discuss issues related to the collection and use of public and private data.	<u>9-12.IC.4</u> Assess personal and societal trade-offs related to computing technologies and data privacy.
	Clarifying Statement	<i>The focus is on recognizing the difference between a public shared space versus a private space.</i>	<i>The focus is on identifying digital spaces in the context of sharing or accessing information, such as an online platform where students submit work (private) versus public websites that anyone can access.</i>	<i>The focus is on identifying different groups who might have access to data stored or posted in different places, including companies.</i>	<i>The focus is on exploring the impacts of data collection, including biases in data collection, and its use by different stakeholders for a range of purposes.</i>	<i>The focus is on discussing the personal and societal benefits and drawbacks of different types of data collection and use, in terms of ethics, policy, and culture.</i>

Impacts of Computing

Description		Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Ethics	Standard	This Standard begins in Grade Band 2-3	<u>2-3.IC.5</u> Identify and discuss how computers are programmed to make decisions without direct human input in daily life.	<u>4-6.IC.5</u> Explain how computer systems play a role in human decision-making.	7-8.IC.5 Analyze potential sources of bias that could be introduced to complex computer systems and the potential impact of these biases on individuals.	9-12.IC.5 Describe ways that complex computer systems can be designed for inclusivity and to mitigate unintended consequences.
	Clarifying Statement		<i>The focus is on describing computing technology that relies on a program, settings, and data to make decisions without direct human involvement.</i>	<i>The focus is on explaining a range of ways that humans interact with AI to make decisions.</i>	<i>The focus is on understanding different factors that introduce bias into an AI system and how those biases affect people.</i>	<i>The focus is on applying an understanding of bias and ethical design in order to make recommendations for designing with inclusivity and social good in mind.</i>
Accessibility	Standard	With teacher support, identify different ways people interact with computers and computing devices.	Identify and discuss factors that make a computing device or software application easier or more difficult to use.	Identify and explain ways to improve the accessibility and usability of a computing device or software application for the diverse needs and wants of users.	Assess the accessibility of a computing device or software application in terms of user needs.	Create accessible computational artifacts that meet standard compliance requirements or otherwise meet the needs of users with disabilities.
	Clarifying Statement	<i>The focus is on the features of computers and other devices, and the things that make them easier to use (i.e. drop- down menus, buttons, areas to type).</i>	<i>The focus is on identifying choices developers make when designing computing devices and software and considering the pros and cons when making those choices.</i>	<i>The focus is on identifying the needs and wants of diverse end users and purposefully considering potential perspectives of users with different backgrounds, ability levels, points of view, and abilities.</i>	<i>The focus is on testing and discussing the usability and accessibility of various technology tools (e.g., apps, games, and devices) with teacher guidance.</i>	<i>At this level, considering accessibility becomes part of the design process and awareness of professionally accepted accessibility standards.</i>

Impacts of Computing

Description		Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Career Paths	Standard	<u>K-1.IC.7</u> Identify multiple jobs that use computing technologies.	<u>2-3.IC.7</u> Identify a diverse range of roles and skills in computer science.	<u>4-6.IC.7</u> Identify a diverse range of role models in computer science.	<u>7-8.IC.7</u> Explore a range of computer science- related career paths.	<u>9-12.IC.7</u> Investigate the use of computer science in multiple fields.
	Clarifying Statement	<i>The focus is on identifying jobs that utilize computing technology and how technology impacts a range of industries. Doctors, business owners, police officers, auto repair technicians, farmers, architects, and pilots use computing technology in their jobs.</i>	<i>The focus is not just on jobs in computer science, but also the skills and practices that are important for careers in the field of computer science.</i>	<i>The emphasis of this standard is the opportunity to personally identify with a range of diverse people in the field of computer science.</i>	<i>At this level, the focus is on building awareness of the many different computer science- related careers.</i>	<i>At this level, the focus is on making connections between computer science and the fields of interest of individual students.</i>

Computational Thinking

	Description	Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Modeling and Simulation	Standard	<p><u>K-1.CT.1</u> Identify and describe one or more patterns (found in nature or designed), and examine the patterns to find similarities and make predictions.</p>	<p><u>2-3. CT.1</u> Create a model of an object or computational process in order to identify patterns and essential elements of the object or process.</p>	<p><u>4-6. CT.1</u> Develop a computational model of a system that shows changes in output when there are changes in inputs.</p>	<p><u>7-8. CT.1</u> Compare the results of alternative models or simulations to determine and evaluate how the input data and assumptions change the results.</p>	<p><u>9-12. CT.1</u> Create a simple digital model that makes predictions of outcomes.</p>
	Clarifying Statement	<p><i>The emphasis is on identifying patterns and then making predictions based on the pattern.</i></p>	<p><i>The emphasis is on essential components represented in the model to achieve desired results and assist in identifying patterns in the world around us, such as cycles in nature or tessellations.</i></p>	<p><i>The emphasis is on understanding, at a conceptual level, that models or simulations can be created to respond to deliberate changes in inputs.</i></p>	<p><i>The focus is on understanding that models or simulations are limited by the data that they use, rather than understanding specifically how they use that data.</i></p>	<p><i>The focus is on using data to build alternative numerical models that can best represent a data set.</i></p>
Data Analysis and Visualization	Standard	<p><u>K-1.CT.2</u> Identify different kinds of data that can be collected from everyday life.</p>	<p><u>2-3. CT.2</u> Identify and describe data collection tools from everyday life.</p>	<p><u>4-6.CT.2</u> Collect digital data related to a real-life question or need.</p>	<p><u>7-8. CT.2</u> Collect and use digital data in a computational artifact.</p>	<p><u>9-12. CT.2</u> Collect and evaluate data from multiple sources for use in a computational artifact.</p>
	Clarifying Statement	<p><i>The emphasis is on understanding what is data and identifying different types of data, while exploring how data can be collected and sorted.</i></p>	<p><i>The emphasis is on identifying various tools in everyday life that collect, sort and store data, such as surveys, spreadsheets and charts.</i></p>	<p><i>The emphasis is on using digital tools to collect and organize multiple data points.</i></p>	<p><i>The emphasis is on designing and following collection protocols. Data sources include, but are not limited to sensors, surveys, and polls.</i></p>	<p><i>The emphasis is on designing and following collection protocols. Data sources include, but are not limited to sensors, web or database scrapers, and human input.</i></p>

Computational Thinking

Description		Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Data Analysis and Visualization	Standard	<p style="text-align: center;"><u>K-1.CT.3</u></p> <p>Identify ways to visualize data, and collaboratively create a visualization of data.</p>	<p style="text-align: center;"><u>2-3. CT.3</u></p> <p>Present the same data in multiple visual formats in order to tell a story about the data.</p>	<p style="text-align: center;"><u>4-6. CT.3</u></p> <p>Visualize a simple data set in order to highlight relationships and persuade an audience.</p>	<p style="text-align: center;"><u>7-8. CT.3</u></p> <p>Refine and visualize a data set in order to persuade an audience.</p>	<p style="text-align: center;"><u>9-12. CT.3</u></p> <p>Refine and visualize complex data sets to tell different stories with the same data set.</p>
	Clarifying Statement	<i>Ways to visualize data include tables, graphs, and charts.</i>	<i>The emphasis is on using the visual representation to make the data meaningful. Options for presenting data visually include tables, graphs, and charts.</i>	<i>The emphasis is on identifying and organizing relevant data to emphasize particular parts of the data in support of a claim.</i>	<i>Refining includes, but is not limited to, identifying relevant subsets of a data set, deleting unneeded data, and sorting and organizing data to highlight trends.</i>	<i>The emphasis is on refining large data sets to create multiple narratives depending upon the audience. Large data sets require use of a software tool or app to cross-reference, analyze, refine, and visualize subsets of the data.</i>
Abstraction and Decomposition	Standard	<p style="text-align: center;"><u>K-1.CT.4</u></p> <p>Identify a problem or task and discuss ways to break it into multiple smaller steps.</p>	<p style="text-align: center;"><u>2-3.CT.4</u></p> <p>Identify multiple ways that the same problem could be decomposed into smaller steps.</p>	<p style="text-align: center;"><u>4-6.CT.4</u></p> <p>Decompose a problem into smaller named tasks, some of which can themselves be decomposed into smaller steps.</p>	<p style="text-align: center;"><u>7-8.CT.4</u></p> <p>Write a program using functions or procedures whose names or other documentation convey their purpose within the larger task.</p>	<p style="text-align: center;"><u>9-12.CT.4</u></p> <p>Implement a program using a combination of student-defined and third-party functions to organize the computation.</p>
	Clarifying Statement	<i>The focus is on identifying a complex (for the age group) task or problem to break apart into smaller steps. The focus should be on understanding why this process is helpful.</i>	<i>The focus is on identifying how to break apart a problem into smaller steps, while understanding that there can be multiple valid sequences of steps that solve the same problem.</i>	<i>The focus is on identifying smaller steps that solve a larger problem, recognizing that some of those steps must be broken down further until each step is manageable.</i>	<i>The focus is on identifying where there is potential to use a function or procedure to create a reusable computation.</i>	<i>The focus is on having students think about how to decompose a programming problem into functions and procedures, including working around the constraints imposed by specific functions or features provided in a library.</i>

Computational Thinking

	Description	Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Abstraction and Decomposition	Standard	<u>K-1.CT.5</u> Recognize that the same task can be described at different levels of detail.	<u>2-3.CT.5</u> Identify the essential details needed to perform a general task in different settings or situations.	<u>4-6.CT.5</u> Identify and name a task within a problem that gets performed multiple times while solving that problem, but with slightly different concrete details each time.	<u>7-8.CT.5</u> Identify multiple similar concrete computations in a program, then create a function to generalize over them using parameters to accommodate their differences	<u>9-12.CT.5</u> Modify a function or procedure in a program to perform its computation in a different way over the same inputs, while preserving the result of the overall program.
	Clarifying Statement	Instructions to perform a task can be given with more or less detail but still achieve the same result.	Some details are essential to performing a task, while others are not (E.g., some may be so common that they don't need to be stated).	The focus is on recognizing that the same general steps are often repeated while solving a problem, even though some of the details may differ.	The focus is on identifying similar expressions or sequences in code and abstracting them into functions that generalize over the similarities.	The focus is on understanding that the same abstract concept can be performed in different ways in a program, as long as the same inputs yield the same results
Algorithms and Programming	Standard	<u>K-1.CT.6</u> Follow an algorithm to complete a task.	<u>2-3.CT.6</u> Create two or more algorithms for the same task.	<u>4-6.CT.6</u> Compare two or more algorithms and discuss the advantages and disadvantages of each for a specific task.	<u>7-8.CT.6</u> Design, compare and refine algorithms for a specific task or within a program.	<u>9-12.CT.6</u> Demonstrate how at least two classic algorithms work, and analyze the trade-offs related to two or more algorithms for completing the same task.
	Clarifying Statement	<i>The task can be a familiar, daily activity or can be designed by the teacher. Algorithms at this stage may be short, though must contain at least three steps, and should focus on sequencing.</i>	<i>The task can be a familiar activity or more abstract. The focus is on finding more than one way to reach the same goal.</i>	<i>Tasks can be unplugged or related to a computer program and reflect a task with a specific result that can be checked.</i>	<i>Algorithms can be represented in a range of formats, including flowcharts, pseudocode, or written steps. Planning the output of a program, such as with a storyboard or wireframe, is not sufficient on its own.</i>	<i>The focus of this standard is a high-level understanding that algorithms involve trade-offs, especially related to memory use and speed. Students should understand that classic algorithms are solved problems that can be reused.</i>

Computational Thinking

		Description	Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Algorithms and Programming	Standard		<u>K-1.CT.7</u> Identify terms that refer to different concrete values over time.	<u>2-3.CT.7</u> Name/label key pieces of information in a set of instructions, noting whether each name/label refers to a fixed or changing value.	<u>4-6.CT.7</u> Identify pieces of information that might change as a program or process runs.	<u>7-8.CT.7</u> Design or remix a program that uses a variable to maintain the current value of a key piece of information.	<u>9-12.CT.7</u> Design or remix a program that utilizes a data structure to maintain changes to related pieces of data.
	Clarifying Statement	<i>The focus is on observing that people use certain terms/labels to refer to a concept (E.g., Today's Date, Today's Weather, Word of the Week, Today's Line Leader) whose specific value can change depending on the day or time.</i>	<i>The focus is on identifying key pieces of information, labeling them with a descriptive name, and observing which labels refer to different values each time the instructions are given, and which values stay the same.</i>	<i>The focus is on identifying information that needs to be updated as a computation progresses.</i>	<i>The focus is on understanding that variables can be used to track the value of a concept in a program as it changes over time.</i>	<i>The focus is on updating the elements or components within a named instance of a data structure, without changing the value associated with the name itself.</i>	
	Standard		<u>K-1.CT.8</u> Identify a task consisting of steps that are repeated, and recognize which steps are repeated.	<u>2-3.CT.8</u> Identify steps within a task that should only be carried out under certain precise conditions.	<u>4-6.CT.8</u> Develop algorithms or programs that use repetition and conditionals for creative expression or to solve a problem.	<u>7-8.CT.8</u> Develop or remix a program that effectively combines one or more control structures for creative expression or to solve a problem.	<u>9-12.CT.8</u> Develop a program that effectively uses control structures in order to create a computer program for practical intent, personal expression, or to address a societal issue.
	Clarifying Statement	<i>The focus should be on short tasks where there is repetition and having students identify and describe the repetition.</i>	<i>The focus should be on recognizing that some steps in a task only get carried out some of the time, and that the conditions can be precisely described.</i>	<i>The focus is on having students work with each of the conditionals and repetition (loops or iteration), but without having to use them in conjunction with one another.</i>	<i>The focus is on having students combine control structures, such as conditionals and loops, in such a way that they work together to achieve an outcome that could not be achieved using only one of them.</i>	<i>The focus is on combining different forms of repetition and conditionals, including conditionals with complex Boolean expressions.</i>	

Computational Thinking

		Description	Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Algorithms and Programming	Standard		<u>K-1.CT.9</u> Identify and fix (debug) errors within a simple algorithm.	<u>2-3.CT.9</u> Identify and debug errors within an algorithm or program that includes sequencing or repetition.	<u>4-6.CT.9</u> Explain each step of an algorithm or program that includes repetition and conditionals for the purposes of debugging.	<u>7-8.CT.9</u> Read and interpret code to predict the outcome of various programs that involve conditionals and repetition for the purposes of debugging.	<u>9-12.CT.9</u> Systematically test and refine programs using a range of test cases, based on anticipating common errors and user behavior.
	Clarifying Statement		<i>The focus should be on identifying small errors within a simple algorithm and fixing the errors collaboratively.</i>	<i>The focus should be on having students identify error(s) in an algorithm and suggest changes to fix the algorithm.</i>	<i>Debugging frequently involves stepping or tracing through a program as if you were the computer to reveal errors.</i>	<i>Programs can be debugged in numerous ways, including tracing and trying varying inputs. Perseverance is important in finding errors.</i>	<i>The emphasis is on perseverance and the ability to use different test cases on their programs and identify what issues are being tested in each case.</i>
	Standard		<u>K-1.CT.10</u> Collaboratively create a plan that outlines the steps needed to complete a task.	<u>2-3.CT.10</u> Develop and document a plan that outlines specific steps taken to complete a project.	<u>4-6.CT.10</u> Describe the steps taken and choices made to design and develop a solution using an iterative design process.	<u>7-8.CT.10</u> Document the iterative design process of developing a computational artifact that incorporates user feedback and preferences.	<u>9-12.CT.10</u> Collaboratively design and develop a program or computational artifact for a specific audience and create documentation outlining implementation features to inform collaborators and users.
	Clarifying Statement		<i>The focus should be on collaboratively identifying a planning process which can be written, drawn, or spoken.</i>	<i>The focus should be on developing and documenting a plan in writing, using appropriate tools (such as a storyboard or story map).</i>	<i>An iterative design process involves defining the problem or goal, developing a solution or prototype, testing the solution or prototype, and repeating the process until the problem is solved or desired result is achieved. Describing can include speaking or writing.</i>	<i>At this level, the emphasis is on using the iterative design process to create a solution or prototype with the end user in mind and to document the steps taken by the student to gather and incorporate information about the user into the computational artifact.</i>	<i>The focus is on the collaborative aspect of software development, as well as the importance of documenting the development process such that the reasons behind various development decisions can be understood by other software developers.</i>

Networks and Systems Design

	Description	Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Hardware and Software	Standard	<u>K-1.NSD.1</u> Identify ways people provide input and get output from computing devices.	<u>2-3.NSD.1</u> Describe and demonstrate several ways a computer program can receive data and instructions (input) and can present results (output).	<u>4-6.NSD.1</u> Propose improvements to the design of a computing technology based on an analysis of user interactions with that technology.	<u>7-8.NSD.1</u> Design a user interface for a computing technology that considers usability, accessibility, and desirability.	<u>9-12.NSD.1</u> Design a solution to a problem that utilizes embedded systems to automatically gather input from the environment.
	Clarifying Statement	<i>The emphasis is on understanding that humans and computers interact through inputs and outputs and identifying examples in their daily lives.</i>	<i>The focus is on choosing and demonstrating different computing technologies to receive and present results depending on the task.</i>	<i>The emphasis is on thinking about how the user interface could be optimized for the purpose of the computing technology and user interactions.</i>	<i>The emphasis is on designing (but not necessarily creating) a user interface. Designs could include things like written descriptions, drawings, and/or 3D prototypes.</i>	<i>The emphasis is on designing (but not necessarily creating) solutions with embedded systems. Systems can be biological, mechanical, social, or some other type of system. Designs could include written descriptions, drawings, and/or 3D prototypes.</i>
	Standard	<u>K-1.NSD.2</u> Identify basic hardware components that are found in computing devices.	<u>2-3.NSD.2</u> Explain the function of software in computing systems, using descriptive/precise language.	<u>4-6.NSD.2</u> Model how computer hardware and software work together as a system to accomplish tasks.	<u>7-8.NSD.2</u> Design a project that combines hardware and software components.	<u>9-12.NSD.2</u> Explain the levels of interaction existing between the application software, system software, and hardware of a computing system.
	Clarifying Statement	<i>Basic hardware components are the parts that students can see, such as monitor/screen, keyboard, mouse, etc.</i>	<i>The focus is on understanding how software helps to complete computing tasks.</i>	<i>A model should only include the basic elements of a computer system, including input, output, processor, and storage.</i>	<i>The focus is on designing (but not necessarily creating) a system that involves collecting and exchanging data including input, output, storage, and processing.</i>	<i>Knowledge of specific advanced terms of computer architecture and how specific levels work is not required. Rather the progression, in general terms, from voltage to binary signal to logic gates and so on to the level of human interaction, should be explored.</i>

Networks and Systems Design

Description		Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Hardware and Software	Standard	<u>K-1.NSD.3</u> Identify basic hardware and/or software problems.	<u>2-3.NSD.3</u> Describe and attempt troubleshooting steps to solve a simple technology problem.	<u>4-6.NSD.3</u> Determine potential solutions to solve hardware and software problems using common troubleshooting strategies.	<u>7-8.NSD.3</u> Identify and fix problems with computing devices and their components using a systematic troubleshooting method or guide.	<u>9-12.NSD.3</u> Develop and communicate multi-step troubleshooting strategies others can use to identify and fix problems with computing devices and their components.
	Clarifying Statement	<i>The focus is on identifying the source of a common hardware/software problem (such as low battery, speakers not connected) with teacher guidance.</i>	<i>The focus is on building problem solving techniques for self-help, such as making sure speakers are turned on or headphones are plugged in or making sure that the caps lock key is not on, to narrow down a problem.</i>	<i>The focus is on trying multiple strategies to troubleshoot problems, including rebooting the device, checking for power, checking network availability, closing and reopening an application, try using a different browser, and checking settings within an application.</i>	<i>The focus is on identifying the source of a problem by using a structured process such as a checklist or flowchart to systematically try solutions that may fix the problem.</i>	<i>Some examples of multi-step troubleshooting problems include resolving connectivity problems, adjusting system configurations and settings, ensuring hardware and software compatibility, and transferring data from one device to another.</i>
Networks and the Internet	Standard	<u>K-1.NSD.4</u> Identify how protocols/rules help people share information over long distances.	<u>2-3.NSD.4</u> Recognize that information can be communicated using different representations that satisfy different rules.	<u>4-6.NSD.4</u> Model how data is structured to transmit through a network.	<u>7-8.NSD.4</u> Design a protocol for transmitting data through a multi-point network.	<u>9-12.NSD.4</u> Describe the components and design characteristics that allow data and information to be moved, stored and referenced over the Internet.
	Clarifying Statement	<i>The focus is on how information is conveyed from one individual to another and the rules that allow for communication and data sharing, such as envelopes need addresses/emails need email addresses to reach the right person.</i>	<i>The focus is on understanding that information is converted in a special way so it can be sent through wires or waves through the air.</i>	<i>The focus is on understanding that data is broken down into smaller pieces and labeled to travel through a network and reassembled.</i>	<i>The focus is on understanding how protocols enable communication and what additional data is necessary for transmission. Knowledge of the details of how specific protocols work is not expected.</i>	<i>The focus is on understanding the design decisions that direct the coordination among systems composing the Internet that allow for scalability and reliability. Discussions should consider historical, cultural, and economic decisions related to the development of the Internet, as well as the core components of servers and routers.</i>

Networks and Systems Design

Description		Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Networks and the Internet	Standard	<u>K-1.NSD.5</u> Identify physical devices that can store information.	<u>2-3.NSD.5</u> Describe and navigate to various locations where digital information can be stored.	<u>4-6.NSD.5</u> Describe that data can be stored locally or remotely in a network.	<u>7-8.NSD.5</u> Summarize how remote data is stored and accessed in a network.	<u>9-12.NSD.5</u> Describe how emerging technologies are impacting networks and how they are used.
	Clarifying Statement	<i>The focus is on recognizing that common computing devices can store information, including computers, tablets, phones, and calculators.</i>	<i>The focus is being able to navigate and save a file to a specific location.</i>	<i>The focus is on describing that data must be stored on a physical device. Access to remotely stored data is restricted by the networks, and to access non-local data a connection to the network is required.</i>	<i>The focus is on explaining where the data associated with different apps, devices, and embedded systems is stored, how the data is synchronized, and how to connect to it.</i>	<i>The focus is on discussing how specific emerging technologies impact networks in terms of scale, access, reliability, and security, and user behavior.</i>

Cybersecurity

Description		Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Risks	Standard	<u>K-1.CY.1</u> Identify reasons for keeping information private.	<u>2-3.CY.1</u> Compare reasons why an individual should keep information private or make information public.	<u>4-6.CY.1</u> Explain why different types of information might need to be protected.	<u>7-8.CY.1</u> Determine the types of personal information and digital resources that an individual may have access to that needs to be protected	<u>9-12.CY.1</u> Determine the types of personal and organizational information and digital resources that an individual may have access to that needs to be protected.
	Clarifying Statement	<i>The focus should be on discussing the reasons to keep certain information public (information you share with others) or private (information you keep to yourself or only share with your family).</i>	<i>The focus should be on potential effects, both positive and negative, for making information public.</i>	<i>The emphasis is on discussing different reasons that adversaries may want to obtain, compromise, or leverage different types of information. At this stage, students should be focused on general concepts.</i>	<i>The emphasis is on identifying personal information and devices that an individual may have access to and that adversaries may want to obtain or compromise. At this stage, students should focus on specific data and devices that they have access to.</i>	<i>The emphasis is on identifying both personal information and organizational information, and devices and embedded systems, that an individual may have access to and that adversaries may want to compromise, obtain, or leverage.</i>
Safeguards	Standard	<u>K-1.CY.2</u> Identify simple ways to help keep accounts secure.	<u>2-3.CY.2</u> Compare and contrast behaviors that do and do not keep information secure.	<u>4-6.CY.2</u> Describe common safeguards for protecting personal information.	<u>7-8.CY.2</u> Describe physical, digital, and behavioral safeguards that can be employed in different situations.	<u>9-12.CY.2</u> Describe physical, digital, and behavioral safeguards that can be employed to protect the confidentiality, integrity, and accessibility of information.
	Clarifying Statement	<i>The emphasis is on having a basic understanding of ways to keep accounts secure, such as having passwords/pass codes.</i>	<i>The emphasis is on recognizing and avoiding potentially harmful behaviors, such as sharing private information online or not logging off a public computer.</i>	<i>The emphasis is on describing common safeguards such as protecting devices and accounts with strong passwords, keeping software updated, and not sending sensitive information over SMS.</i>	<i>The emphasis is on recommending different types of security measures including physical, digital, and behavioral, for a given situation.</i>	<i>The emphasis is on considering the CIA Triad when recommending safeguards for a specific application or device.</i>

Cybersecurity

Description		Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Safeguards	Standard	This Standard begins in Grade Band 2-3	<u>2-3.CY.3</u> Identify why someone might choose to share an account, app access, or devices.	<u>4-6.CY.3</u> Describe trade-offs between allowing information to be public and keeping information private and secure.	<u>7-8.CY.3</u> Describe trade-offs of implementing specific security safeguards.	<u>9-12.CY.3</u> Explain specific trade-offs when selecting and implementing security recommendations.
	Clarifying Statement		<i>The focus is on explaining how user habits and behaviors should be adjusted based on who shares a device and/or application.</i>	<i>The focus is on considering the trade-offs of data sharing in different contexts.</i>	<i>The focus is on thinking about how a specific safeguard impacts the confidentiality, integrity, and access of information. Additionally, there should be a focus on discussing whether strengthening one specific safeguard adversely affects another.</i>	<i>The focus is on making security recommendations and discussing trade-offs between the degree of confidentiality, the need for data integrity, the availability of information for legitimate use, and assurance that the information provided is genuine.</i>
	Standard	<u>K-1.CY.4</u> Decode a word or short message using a simple code.	<u>2-3.CY.4</u> Encode and decode a short message or phrase.	<u>4-6.CY.4</u> Model and explain the purpose of simple cryptographic methods.	<u>7-8.CY.4</u> Describe the limitations of cryptographic methods.	<u>9-12.CY.4</u> Evaluate applications of cryptographic methods.
	Clarifying Statement	<i>The focus is on having students look at a string of symbols and giving them a key to substitute letters for the symbols to spell a word.</i>	<i>The focus is on having one student encode a word or message, and a different student, using the same key, decode it. You might encourage students to develop their own coding scheme.</i>	<i>The focus is on using ciphers to encrypt and decrypt messages as a means of safeguarding data.</i>	<i>The focus is on recognizing that cryptography provides a level of security for data, and some types of encryption are weaker than others.</i>	<i>The focus is on analyzing the role that cryptography and data security play in events that have shaped history and impact the future.</i>

Cybersecurity

Description		Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Response	Standard	<u>K-1.CY.5</u> Identify when it is appropriate to open and/or click on links or files.	<u>2-3.CY.5</u> Identify unusual activity of applications and devices that should be reported to a responsible adult.	<u>4-6.CY.5</u> Explain suspicious activity of applications and devices.	<u>7-8.CY.5</u> Describe actions to be taken before and after an application or device reports a security problem or performs unexpectedly.	<u>9-12.CY.5</u> Recommend multiple actions to take prior and in response to various types of digital security breaches.
	Clarifying Statement	<i>The emphasis is on recognizing when it is safe and appropriate for students to open links, with teacher guidance.</i>	<i>The emphasis is on recognizing situations in which students should notify a trusted adult when a device or application does not perform as expected (pop-ups, authentication and/or loading issues).</i>	<i>The emphasis is on describing simple forms of suspicious behavior in common applications and devices, including suspicious data/links, viruses and malware.</i>	<i>The emphasis is on explaining appropriate actions to prevent and address common security issues for common situations.</i>	<i>The emphasis is on analyzing different types of breaches and planning appropriate actions that might be taken to prevent and respond to a security breach.</i>

Digital Literacy

	Description	Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Digital Use	Standard	<u>K-1.DL.1</u> Identify and explore the keys on a keyboard.	<u>2-3.DL.1</u> Locate and use the main keys on a keyboard to enter text independently.	<u>4-6.DL.1</u> Type on a keyboard while demonstrating proper keyboarding technique.	<u>7-8.DL.1</u> Type on a keyboard while demonstrating proper keyboarding technique, with increased speed and accuracy.	<u>9-12.DL.1</u> Type proficiently on a keyboard.
	Clarifying Statement	The focus is on exploring physical and/or touchscreen keyboards, and for students to be able to identify specific keys such as arrow keys, enter, space bar, backspace.	Students should be introduced to keyboarding and identify in second grade and begin to receive direct instruction in keyboarding in third grade, with a focus on form over speed and accuracy.	The focus is on direct instruction in keyboarding. Instruction should focus on form over speed and accuracy.	The emphasis is on continuing to improve keyboarding skills, with a focus on increasing speed as well as accuracy.	The focus is to demonstrate proficient keyboarding skills by the end of 12th grade.
	Standard	<u>K-1.DL.2</u> Communicate and work with others using digital tools.	<u>2-3.DL.2</u> Communicate and work with others using digital tools to share knowledge and convey ideas.	<u>4-6.DL.2</u> Select appropriate digital tools to communicate and collaborate while learning with others.	<u>7-8.DL.2</u> Communicate and collaborate with others using a variety of digital tools to create and revise a collaborative product.	<u>9-12.DL.2</u> Communicate and work collaboratively with others using digital tools to support individual learning and contribute to the learning of others.
	Clarifying Statement	<i>The focus should be on teaching students that people use digital tools to share ideas and work together. Communication and collaboration should be with teacher guidance.</i>	<i>The focus is on using digital tools to communicate and collaborate in order to expand knowledge and effectively convey ideas.</i>	<i>Students' progress from understanding that people use digital tools to communicate and collaborate to how they use the tools. Communication and collaboration should be purposeful and, when possible and appropriate, with an authentic audience.</i>	<i>Students connect with others (students, teachers, families, the community, and/or experts) to further their learning for a specific purpose, give and receive feedback, and created a shared product.</i>	<i>Digital tools and methods should include both social and professional (those predominantly used in college and careers). Collaboration should occur in real time and asynchronously, and there should be opportunities for students to both seek and provide feedback on their thoughts and products.</i>

Digital Literacy

		Description	Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Digital Use	Standard		<u>K-1.DL.3</u> Conduct a basic search based on a provided keyword.	<u>2-3.DL.3</u> Conduct basic searches based on student-identified keywords.	<u>4-6.DL.3</u> Conduct and refine advanced multi-criteria digital searches to locate content relevant to varied learning goals.	<u>7-8.DL.3</u> Compare types of search tools, choose a search tool for effectiveness and efficiency, and evaluate the quality of search tools based on returned results.	No Standard; Mastery reached by Grade 8
	Clarifying Statement		<i>The teacher will provide the keyword to help students conduct basic searches using appropriate tools.</i>	<i>Students will identify key words with which to perform an internet search using teacher-approved tool(s), to obtain information.</i>	<i>Focus should be on the quality of results a search generates, and how to improve search results based on the task or purpose by defining multiple search criteria and using filters.</i>	<i>Mastery of this standard implies an understanding of how different search tools work, why different search tools provide different results, and how and why some websites rise to the top of a search.</i>	
	Standard		<u>K-1.DL.4</u> Use at least one digital tool to create a digital artifact.	<u>2-3.DL.4</u> Use a variety of digital tools and resources to create digital artifacts.	<u>4-6.DL.4</u> Use a variety of digital tools and resources to create and revise digital artifacts.	<u>7-8.DL.4</u> Select and use digital tools to create, revise, and publish digital artifacts.	<u>9-12.DL.4</u> Independently select advanced digital tools and resources to create, revise, and publish complex digital artifacts or collection of artifacts.
	Clarifying Statement		<i>The focus is on students using at least one digital tool to create a digital artifact, with teacher guidance.</i>	<i>Different digital tools are used for different purposes, such as communicating, collaborating, researching, and creating original content.</i>	<i>The focus is on understanding the editing process when creating digital artifacts on multiple platforms.</i>	<i>Teachers should designate a school-approved location for students to publish artifacts for an audience to view. Advanced digital tools may refer to the tool itself (i.e. the tool is more advanced) or to utilization of more advanced features on a tool.</i>	<i>Mastery of this standard implies an ability to choose and use the technology tool or resource best suited for a task or purpose.</i>

Digital Literacy

Description		Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Digital Use	Standard	This Standard begins in Grade Band 4-6.	This Standard begins in Grade Band 4-6.	<u>4-6.DL.5</u> Identify common features of digital technologies.	<u>7-8.DL.5</u> Transfer knowledge of technology in order to explore new technologies.	<u>9-12.DL.5</u> Transfer knowledge of technology in order to use new and emerging technologies on multiple platforms.
	Clarifying Statement			<i>Many digital technologies have similar features and functionalities. The focus is on identifying the similarities between different programs or applications, such as word processing tools on different platforms.</i>	<i>New technologies could include different tools for collaboration, creation, etc. that the student has not used before.</i>	<i>New technologies could include different tools for collaboration, creation, etc. that the student has not used before. Platforms could include devices running different operating systems or could be emerging STEAM technologies. Digitally fluent individuals can move between platforms and can use that knowledge when encountering new technology.</i>
Digital Citizenship	Standard	This Standard begins in Grade Band 2-3.	<u>2-3.DL.6</u> Describe ways that information may be shared online.	<u>4-6.DL.6</u> Describe persistence of digital information and explain how actions in online spaces can have consequences.	<u>7-8.DL.6</u> Explain the connection between the persistence of data on the Internet, personal online identity, and personal privacy.	<u>9-12.DL.6</u> Actively manage digital presence and footprint to reflect an understanding of the permanence and potential consequences of actions in online spaces.
	Clarifying Statement		<i>The focus is on how personal information, both public and private, becomes available online and understand ways their information can be shared.</i>	<i>In order for students to be able to effectively manage their digital identities, it should be understood that online information doesn't "go away," and that information posted online can affect their real lives, even years in the future.</i>	<i>A focus should be on learning about privacy settings on social media accounts, exploring the concept of a positive online presence/identity, and identifying behaviors and information that could potentially affect them now and in the future.</i>	<i>Active management implies an understanding of how intentional and unintentional actions can affect a digital presence.</i>

Digital Literacy

Description		Grades K-1	Grades 2-3	Grades 4-6	Grades 7-8	Grades 9-12
Digital Citizenship	Standard	<u>K-1.DL.7</u> Identify actions that promote good digital citizenship, and those that do not.	<u>2-3.DL.7</u> Understand what it means to be part of a digital community and describe ways to keep it a safe, respectful space.	<u>4-6.DL.7</u> Identify and describe actions in online spaces that could potentially be unsafe or harmful.	<u>7-8.DL.7</u> Describe safe, appropriate, positive, and responsible online behavior and identify strategies to combat negative online behavior.	<u>9-12.DL.7</u> Design and implement strategies that support safety and security of digital information, personal identity, property, and physical and mental health when operating in the digital world.
	Clarifying Statement	<i>Students are able to identify the basic concept of being a “good digital citizen”, and know what actions are and are not safe, responsible and ethical when using technologies.</i>	<i>The focus is on describing actions with students and having them discuss whether those actions would be safe, responsible, respectful, and/or ethical using technology and/or online spaces.</i>	<i>The focus is on identifying and describing potentially unsafe behaviors, and actions to take if they are witnessed or experienced, including cyberbullying.</i>	<i>Students are able to strategize ways to keep online spaces safe. Identify types of negative online behaviors including cyberbullying, harassment, trolling/flaming, excluding, outing, dissing, masquerading, and impersonation.</i>	<i>Strategies that support positive mental health in the digital world include both ways to avoid or handle cyberbullying and ways to interact positively and constructively with others in connected spaces.</i>

Instructional Software

All computers used from K through 12th grade use Google for Education (G Suite) as a core tool plus dozens of programs that are available through the network and Classlink, Core tool plus dozens of programs that are available through the network and Classlink. The Internet is accessible from all K-12 computers. Google Enterprise for Edu and Classlink available for School to home connection. Achieve 3000, Study Island, Castle learning, ST Math, Discovery Ed, Raz Kids, Pearson Successnet, Pear deck, Adobe Creative suite, Lightspeed MDM and Web Filter Relay, Apple VPP products.

ADULT EDUCATION

Adult education is available through the West Hempstead Public Library, Nassau BOCES and the West Hempstead Parent/Teacher Association. These organizations help to ensure access to technology for adults in our community. The district will coordinate staff development activities, which are funded under Title IIA to provide technology training appropriate to the services and content areas they are providing within the school community. Regular communication will be established to identify additional areas of collaboration, which will improve professional development and technology access.

STAFF DEVELOPMENT

The West Hempstead UFSD is committed to ongoing, hands-on professional staff development for teachers, administrators, and library media personnel, both public and non-public schools to support and enhance the use of technology in classrooms, and library media centers. District and Title IIA funds support this initiative. This support will include staff development activity options available to all

staff through regularly scheduled staff development and/or Superintendent's Conference Days during the school year, and after school and/or summer activities specifically designed to advance technology literacy among the professional staff.

As of the 2020 school year, the West Hempstead School District created a Director of Instructional Technology administrative position. The Director of Instructional Technology supports teachers in their instructional planning with technology through a coaching model. She also creates resources in the form of a weekly bulletin. This bulletin shares information to be utilized immediately in the classroom. Additionally, the District partners with Nassau BOCES Model Schools to provide professional development sessions on district technologies and innovative methods of implementation in the classroom. In order to determine the capacity of educators, the Director of Instructional Technology utilizes surveys, anecdotal data, and the ITEC committee to inform areas of strength and areas in need of improvement. Additionally, inter-visitations between buildings provide pivotal in teachers learning about new strategies and tools. The professional development effectiveness is evaluated through the Professional Development Committee in which after each professional development session, attendees provide feedback on the session.

The District Assistant Superintendent who heads this committee utilizes the data to determine areas for upcoming Professional Development and which consultants fit the desired needs. The Professional Development committee sends out the survey annually, and information obtained is then communicated to the appropriate district administrators for implementation. Programs will be offered in district classrooms, media centers, or when necessary, at off-site locations where training can occur prior to implementation of programs within the district.

An absolutely essential ingredient to the successful implementation of any technology plan is the awareness and acceptance of the need to provide training for key personnel. Equally important factors are the need to include staff in all stages of planning and to ensure that staff development is continually in place. Provisions will be made for comprehensive staff development programs, which empower teachers to use current and future technology. Initial staff development had focused on software and skills needed to use the existing hardware. Staff development for technology integration must be ongoing and evolutionary. Future training will focus on curriculum integration and technology applications.

SOFTWARE/WEB-BASED SELECTION

On the elementary level requests will be submitted to the Principal. On the High School and Middle School level requests will be submitted to the directors for content-specific software and to the principal for all other software. Purchases will be proposed through the budget process. The Director of Instructional Technology coordinates all district and building-wide instructional technology purchases with the District Assistant Superintendent for Business and Operations to ensure purchases reflect need and fiduciary allocations.

TRAINING AND TECHNICAL ASSISTANCE

Sources for ongoing training and technical assistance to schools and staff members include Nassau BOCES tech support and staff development programs such as the Nassau Tract Center; local colleges such as Hofstra University, and Adelphi University; consultants providing training or technical support to West Hempstead UFSD; other grant funded sources such as the Perkins consortia, Learning technology

grants, Title IIA Technology Literacy training programs, and expert volunteers from the community.

SOFTWARE AND PRINT RESOURCES

Software incorporated will include Microsoft Office Professional Suite as the district standard for word processing, spreadsheets, presentations, and databases. Other software packages will be purchased as needed. These will be linked to our curricula.

The West Hempstead UFSD will utilize the services of the Google Chrome browser, Microsoft Edge and Mozilla Firefox browser. Internet access is available in all of the district's classrooms and computer labs. The district will enhance its association with the Nassau School Library System and in conjunction with the West Hempstead Public Library will provide its students and staff with recent print material. Four buildings now have automated library systems.

TIMELINE

As a result of participation with Title Grants\ERATE\CIPA, the West Hempstead UFSD will collaborate with the BOCES Consortium to ensure that new technologies to be acquired by the district will be compatible with the Long-Island wide integrated network of educational providers.

COSTS

Anticipating the costs of future technology acquisition, the District will take full advantage of the Universal Service (E-rate) Discount Program. Savings in telecommunications costs will be used in the District to further the purchase of additional technology for student use, and to support the related expenses required for such technology implementation.

BUDGET 2022-2023

<i>Line Code</i>	<i>Budget Code Description</i>	<i>Amount</i>
A 1681.200	DATA PROCESSING EQUIP	43,400.00
A 1681.460	DATA PROCESSING SOFTWARE	91,550.00
A 1681.490	DATA PROCESSING & PRINTING	148,539.00
A 1681.501	DATA PROCESSING SUPPLIES	9,500.00
A 2630.200	CAI - HARDWARE / EQUIPMENT	264,200.00
A 2630.400	EQUIPMENT MAINTENANCE	59,850.00
A 2630.460-01	SOFTWARE - CHESTNUT ST	3,882.52
A 2630.460-02	SOFTWARE - CORNWELL AVE	19,402.00
A 2630.460-04	SOFTWARE - GEORGE WASHINGTON	14,560.00
A 2630.460-05	SOFTWARE - HANC	6,000.00
A 2630.460-07	SOFTWARE - MS	9,736.00
A 2630.460-08	SOFTWARE - HS	25,806.00
A 2630.460-08-2200	MUSIC LAB SOFTWARE	3,000.00
A 2630.461-00	INSTRUCTIONAL TECHNOLOGY - DISTRICTWIDE	7,323.50
A 2630.461-00-ENL	INSTRUCTIONAL TECHNOLOGY - ENL	500
A 2630.461-01	INSTRUCTIONAL TECHNOLOGY - CHESTNUT STREET	4,472.00
A 2630.461-02	INSTRUCTIONAL TECHNOLOGY - CORNWELL AVENUE	24,796.17
A 2630.461-04	INSTRUCTIONAL TECHNOLOGY - GEORGE WASHINGTON	10,327.00
A 2630.461-07	INSTRUCTIONAL TECHNOLOGY - MS	7,552.00
A 2630.461-08	INSTRUCTIONAL TECHNOLOGY - HS	14,917.00
A 2630.490	BOCES COMPUTERS	58,667.50
A 2630.501-01	SUPPLIES & MATERIALS	4,734.87
A 2630.501-02	SUPPLIES & MATERIALS	5,000.00
A 2630.501-04	SUPPLIES & MATERIALS	5,000.00
A 2630.501-07	SUPPLIES & MATERIALS	4,800.00
A 2630.501-08	SUPPLIES & MATERIALS	10,000.00
A 1620.478	TELEPHONE SYSTEM-DISTRICTWIDE	10,000.00
A 1620.478-00-6056	TELEPHONE EQUIP., MAINT	3,000.00
A 1620.478-01	TELEPHONE - CHESTNUT	6,300.00
A 1620.478-02	TELEPHONE - CORNWELL	4,300.00

A 1620.478-04	TELEPHONE - GW	6,300.00
A 1620.478-09	TELEPHONE - SYSTEM	20,100.00
Total:		907,515.56

Budget 2023-2024 – 2% increase
Budget 2024-2025 – 2% increase

ADMINISTRATIVE NETWORK

Applications used include Data Warehousing (BOCES hosted), eScholar (NYSTART), IEPDirect, Schoolzilla and Nvision is used for accounts payable and payroll (Powerschool, My Learning Plan, AESOP, Frontline, Level 0, etc..)

COORDINATION

As the District works with technology and staff development providers, and with other State and Federal funding programs, our staff will work with the providers to coordinate services available. This coordination will involve a global review of services available from all providers so that as implementation plans are developed those services will maximize the effectiveness of each provider. Thus, for example, hardware and training under Model Schools will be coordinated according to district content area priorities. Responsibility for this coordination will be district level technology leaders, ITEC and administration.

PARENT COMMUNITY ACCESS

Parents and members of the community will have the opportunity to work in the West Hempstead Public Library. The district web page offers school related information to the parents and community-at-large.

PARENT COMMUNICATION

The district’s student management system, PowerSchool, has a parent portal. Parents of students in middle school and high school are able to monitor their

children's grades and attendance by using the parent portal. This access to real-time information has increased communication between home and school. Apptegy for District-Website and District App that is available for download , the district's automated telephone/email communication system is used to support home/school communication.

ASSESSMENT & EVALUATION

To monitor the successful integration of technologies into curriculum content instruction, the district will identify teachers who are using technology in classrooms and monitor the level of curriculum integration. The Director of Instructional Technology in collaboration with the building administrators will evaluate integration and implementation quarterly to determine next steps.

The Director of ENL and Instructional Technology will evaluate achievement of the aforementioned goals by:

1. Analyzing technology tool data usage to determine effective implementation and provide additional support/training if needed.
2. Samples of students working with the tools to use as benchmarks and samples for teachers and students to access.
3. Monthly "Talk & Techs" with building staff, small group coaching on similar topics, and one-on-one coaching in the classroom to determine instructional effectiveness on formative and summative assessments (ELA, NYSESLAT, Regents, NWEA).
4. Focus Groups of students in the various grade-levels to determine which instructional technology tools they feel best supports their learning, and what styles and approaches would they want to see more of.

Instructional Technology integration is a fluid and flexible process and adjusting the goals based on student and teachers' needs is essential in building an organic integration process. Conversations, classroom visitations, and collaboration with building administration informs our yearly district goals and deliverables which was adjusted based on observation data, informal classroom visitations and the alternative assessment work products by students. Additionally, the Director of Instructional Technology will evaluate achievement of the goals through collecting the survey data from the PDP and ITEC Committee to determine the consultants for Professional Development annually. The data collected in classroom visitations, professional development district surveys and input from the ITEC Committee will be utilized to establish Teacher Academy Courses, Pineapple Chart style-inter-visitations, collegial circles by staff, as well as determine instructional technology software's for purchase using usage tracking.

The NWEA Assessment System has been introduced in grades K-8 for ELA and Math. The Fountas & Pinnell Benchmark Assessment program is utilized in grades K-5 to monitor progress in literacy acquisition.

Through Data Warehouse, using student scores on New York State assessments, the district will monitor changes in student achievement over time within grades and content areas in which technology integration takes place. Under the assumption that effective technology integration will lead to improved student performance, patterns of progress will be monitored, and then compared to state student achievement rates and district historical data.

INTERNET SAFETY

The district is committed to reinforcing internet safety. This topic is integrated into instruction and special workshop presentations. See Board of Education Policy 5170.

ADMINISTRATIVE REGULATIONS

5170 Page 1 of 4

Internet Safety and Acceptable Use Policy (AUP)

Internet access is available to students, teachers and administrators in the West Hempstead School District. Access is being offered to staff, students and community members as part of a collaborative instructional project between the District and a service provider. Our goal in providing this service to staff and students is to promote educational excellence in the West Hempstead School District by facilitating resource sharing innovation and communications.

Staff, students and community members shall have access to:

1. electronic mail communication with people all over the world;
2. information and news from a variety of research institutions in the fields of education, government, science and technology, social sciences, humanities and commercial enterprises;
3. public domain and shareware software of all types;
4. discussion groups, newsgroups and listservs on a plethora of topics;
5. many university library catalogs, the Library of Congress, ERIC, museums.

The District has taken additional precautions to deny access to areas of the local network, which are restricted. However, on a global network, it is impossible to control all materials and to completely prevent access to controversial information in written and graphic form. The District, through appropriate levels of administration and teachers, shall monitor the use of the Internet/computer networks authorized by this policy. Any inappropriate use of hardware, software or access to information on the Internet may result in the cancellation of user privileges.

Internet/Computer Network Terms and Conditions

The Internet is an electronic highway connecting thousands of computers all over the world and millions of individual subscribers. With access to computers and people all over the world also comes the availability of material that may not be considered to be of educational value in the context of the school setting. The smooth operation of the network relies upon the proper conduct of the end user who must adhere to strict guidelines. These guidelines are provided so that users are aware of the responsibilities they are about to acquire. In general, this requires efficient, ethical and legal utilization of the network resources. If a District user violates any of these provisions, his or her account may be terminated and future access may be denied. Also, disciplinary and/or legal procedures may ensue should the offense warrant such action. The signature of the user on the required application and acknowledgment forms is legally binding and indicates that the

party who executed same has read the terms and conditions carefully and understands their significance.

1. **Acceptable Use** - The use of an account must be in support of education and research and consistent with the educational objectives of the District. Use of other organization's network or computing resources must comply with the rules appropriate for the network. Transmissions of any material in violation of any United States, state or local regulation are prohibited. This includes, but is not limited to: Copyrighted material, threatening or obscene material, or material protected as trade secret. Use for commercial activity is not acceptable. Use of product advertisement or political lobbying is also prohibited. The District shall have no responsibility for any misuse of the privilege granted under this policy (see save harmless provision contained on the required Acknowledgment of Responsibilities form).
2. **Privileges** - The use of the Internet/Computer Network is a privilege, not a right, and inappropriate use may result in cancellation of that privilege by the Superintendent or his/her designee. Any problems and/or questions must be directed to the Superintendent or such designee. The Superintendent, administration, faculty and staff of the District may deny, revoke or suspend specific user accounts at their discretion for any misuse or violation of this policy. Individuals have the full responsibility for the use of their accounts, and under no circumstances may anyone share his/her account or password with any other person. Any such sharing of passwords or the use of accounts is prohibited. All recipients of accounts must participate in training pertaining to the proper use of the network. Account users are responsible for maintenance of their accounts. The Superintendent or designee may conduct a yearly review or additional as needed of all accounts to determine adherence to this policy.
3. **Etiquette** - Individuals are expected to abide by the generally accepted rules of network etiquette. These include (but are not limited to) the following:
 - a. Be polite. Do not be abusive in your message to others
 - b. Use appropriate language. Do not swear, use vulgarities or any other inappropriate language
 - c. Do not reveal your personal address, phone number or credit card number or those of students or colleagues
 - d. Note that electronic mail (e-mail) and data files are not guaranteed to be private. People who operate the systems DO have access to all mail and data. Messages or other electronic data relating to or in

support of illegal activities may be reported to the authorities or the Superintendent or his/her designee

- e. Do not use the network in such a way that will disrupt its use by others
- f. All communications and information accessible via the network should be assumed to be the property of the provider
- g. Use of the system and the data acquired must be in strict compliance with the law.

4. **Parent/Guardian Responsibilities** - Parents/Guardians should review this Acceptable Use Policy with their children and return the agreement form to school. This form will be sent home to the parents/guardians of each student on an annual basis. The form will also be distributed to all new entrants. A signature indicates agreement that these resources will be used responsibly, fairly and appropriately by the child. Completed agreement forms will retain students' cumulative record folders.

5. **Personnel Responsibilities** – All school personnel with access to the internet and e-mail as provided by the District should review this form in its entirety. A signature indicates that these resources will be used responsibly. These signed agreements are to be filed at the District office.

6. **Personal Security Issues** - Users should follow these guidelines to maintain ongoing access to our network and to ensure their personal security:

- a. Information that is sent or received over our network is subject to review
- b. Users should exercise common sense and discretion when sending or receiving electronic information (e.g. e-mail) over our network since it is public in nature and has no guarantee of privacy
- c. Users should never distribute personal information such as names, addresses, telephone numbers, credit card numbers, social security numbers, bank accounts, PIN numbers or photographs
- d. Students should never make appointments to meet people in person whom they have contacted online without written authorization from a designated staff member and parent/guardian
- e. Users should notify a staff member or administrator whenever they come across information or messages that are dangerous, illegal, obscene and inappropriate or make them feel uncomfortable.

7. **Consequences of Violations** - The consequences for violating this policy will be consistent with the District's discipline policy and applicable law. Consequences may include, but are not limited, to the following:

- a. Temporary suspension of access to the computer network and the Internet
- b. Notification of school authorities, administrative authorities or law enforcement officials
- c. Notification of parent/guardian
- d. Permanent suspension of access to the computer network and the Internet
- e. Financial restitution
- f. Legal action
- g. Regular Disciplinary Consequences.

Adopted 10/20/98

Amended 10/5/99

Revised 10/21/08, 3/20/12

WEST HEMPSTEAD UNION FREE SCHOOL DISTRICT

Date

Dear Parent/Guardian:

Attached is a copy of the Board of Education policy and regulations regarding Internet Acceptable Use. It is most important that you read and discuss this with your child.

We are proud of the technology available to us in our school. Our intention is to utilize it to the utmost to enhance the education of each student in West Hempstead. You and your child must sign and return the sheet to your child's teacher immediately so that we may begin utilization as quickly as possible.

I thank you in advance for your cooperation in this matter and look forward to continuing our tradition of excellence in education for our students.

Sincerely,

Principal

Reaffirmed 10/21/08, 3/20/12

WEST HEMPSTEAD UNION FREE SCHOOL DISTRICT

Computer Network, Internet Safety and Acceptable Use Policy

ACCEPTABLE USE AGREEMENT

Elementary: Please return this form to your child's classroom teacher.

Secondary: Please return this form to your child's guidance counselor.

PARENT/GUARDIAN

As a parent/guardian of this student, _____, I have read the "Internet Safety and Acceptable Use Policy" and I understand that this access is designed for educational purposes and that the West Hempstead Union Free School District has taken available precautions to eliminate controversial material. However, I also recognize that it is impossible for the District to restrict access to all controversial material and I will not hold it responsible for materials acquired on the Internet. I hereby give permission to issue an account for my child on the school's Local Area Network and that this may, from time to time, include access to the Internet.

Parent/Guardian Name: _____ Phone: _____

Signature: _____ Date: _____

Student Compliance Form: I have read the "Internet Safety and Acceptable Use Policy" and have reviewed it with my parent/guardian. I agree to comply with all the guidelines and will use the system appropriately at all times.

Student Name: _____ Grade: _____ School: _____

Signature: _____ Date: _____

Disclaimer: Although the District has taken reasonable precautions, we cannot guarantee nor can we be responsible for the security, accuracy or appropriateness of content distributed through our network. The District will not be liable for financial or legal obligations arising from the unauthorized use of our system.

Reaffirmed 10/21/08, 3/20/12

WEST HEMPSTEAD UNION FREE SCHOOL DISTRICT

ACCEPTABLE USE AGREEMENT

INTERNET USER: COMMUNITY MEMBER/EMPLOYEE

I understand and will abide by the Terms and Conditions contained in the West Hempstead Union Free School District's Internet/Computer Network policy (a copy of which I have received and read) and applicable laws, ordinances, rules and regulations. I further understand that any violation of the policy is unethical and may constitute a criminal offense. Should I commit any violation, my access privileges may be revoked, school/district disciplinary actions may be taken and/or appropriate legal proceedings may be instituted against me.

Name (please print): _____ Phone: _____

Signature: _____ Date: _____

Disclaimer: Although the District has taken reasonable precautions, we cannot guarantee nor can we be responsible for the security, accuracy or appropriateness of content distributed through our network. The District will not be liable for financial or legal obligations arising from the unauthorized use of our system.

Amended 2/13/07
Reaffirmed 10/21/08, 3/20/12

Bring Your Own Device Policy

The Board supports the use of the Internet, e-mail or the West Hempstead School District network, and other computer networks in the District's instructional program in order to support the District's curriculum, the educational community, projects between schools, facilitate learning and teaching through interpersonal communications, access to information, research and collaboration.

For purposes of this policy, the term network shall be interpreted to include any and all District owned computers, servers, any hardware or software, the District's local area network (LAN), all wireless access points, the District's Intranet, self-contained electronic mail systems and any other elements of the District's computer, telecommunications or electronic communication/information systems.

"Network guest" is defined as any individual who utilizes the District's Information Technology Resources via guest network access or the guest login process.

The use of network facilities shall be consistent with the curriculum adopted by the District, as well as the varied instructional needs, learning styles, abilities, and developmental levels of students.

The electronic information available to students and staff does not imply endorsement of the content by the District, nor does the District guarantee the accuracy of information received on the Internet. The District shall not be responsible for any information that may be lost, damaged or unavailable when using the network or for any information that is retrieved via the Internet.

The District shall not be responsible for any unauthorized charges or fees resulting from access to the Internet.

The District reserves the right to restrict or prevent access via its network and other technology to sources or sites deemed inappropriate by any means, including filtering software or services, the right to log network use and to monitor file server space utilization by District users and the right to view content. Users should have no expectation of privacy with respect to District access or review of file content, e-mail or work utilization.

The Board establishes that use of the Internet, e-mail or the District network is a privilege, not a right; inappropriate, unauthorized and illegal use will result in the cancellation of those privileges and appropriate disciplinary action.

Copies of this policy shall be distributed to all faculty and staff members who must sign a written or electronic acknowledgement of its receipt. All students and their

parents/guardians must sign an acknowledgement of receipt and review of this policy annually.

5175- Page 2 of 2

The District shall make every effort to ensure that the District's network is used responsibly by students, staff and network guests as an educational resource.

Administrators, teachers and staff have a professional responsibility to work together to help students develop the intellectual skills necessary to discriminate among information sources, to identify information appropriate to their age and developmental levels and to evaluate and use the information to meet their educational goals.

Students, staff and network guests have the responsibility to respect and protect the rights of every other user in the District and on the Internet.

It shall be the responsibility of the Superintendent or his/her designee to develop and publish written administrative procedures and/or administrative guidelines for the implementation of this policy, including developing rules and regulations for appropriate network use, a network agreement form, security measures including password procedures, measures designed to restrict access to harmful or inappropriate matter on the Internet, procedures for promoting the safety and security of students when using electronic mail and prevention of unauthorized access and any other matter deemed necessary or advisable to implement this policy.

Network accounts will be used only by the authorized owner of the account for its authorized purpose and may not be shared with anyone. Network users shall respect the privacy of other users on the system.

Adopted 8/20/13

West Hempstead Network Server Complex and District Data Disaster Recovery Plan

Current Data Backup Strategy

Student and Administrative Database Data and Telecommunications VoIP system:

PowerSchool and Finance Manager data are archived at the district's Administration Building safe 252 Chestnut St., West Hempstead, New York. Each DVD-ROM is labeled with a copy date.

The Data resides in three secure locations. The Server Complex (450 Nassau Blvd, the safe and Director of Technology's office, 252 Chestnut St. and an offsite service repository). A yearly DVD-ROM is kept in the safe and tape magazines are in the Director's office. Data is copied from the Middle School Server complex to two auxiliary sites on a daily basis and the district tape archive log for record keeping purposes. The auxiliary site is the Administration Building at 252 Chestnut Street in West Hempstead and an offsite service repository (cloud storage) with SSL Data Encryption and Geographically Diverse Backup.

Backup of West Hempstead's Accounting Data:

Accounting data is backed-up daily from the Finance Manager financial server in the district's server complex (Middle School) to the local hard drive (the last five backups), a tape magazine at the administration building (the last five weeks) and uploads to an offsite location located on Google cloud the east coast and west coast of the United States per weekday.

One tape magazine is kept in the drive and the remaining tapes are kept at the Administration Office Building on Chestnut Street, West Hempstead and Veritas logs the district tape archive journal for record keeping purposes.

Backup job logs are maintained and monitored by Vincent Fleck and Bill Lohrberg and restores are done by Finance Manager, the company that publishes and sells the financial software, and West Hempstead personnel are responsible for switching the tape magazines.

Restoration of Data:

"Test restores" of select staff, student and application data files are used to test the validity of backups. For accounting data, we periodically send a copy of the backup to Finance Manager to restore. Also, in the event of the primary accounting server experiencing a catastrophic failure (full system failure), the secondary, clone server will be quickly configured to assume all server functionally and responsibilities.

Future plans include server virtualization, the next step in restoring the entire server and database in a matter of minutes to any location.

Catastrophic Loss of Server Complex, Software and/or Data: Restoration of Basic, Non-redundant Operations

In the event of a true disaster, in which the Server Complex is destroyed and all domain resources need to be restored at a different location, the following would need to be considered:

Physical Space – a locked room with adequate air and power conditioning would be required, measuring approximately 200 square feet.

Fiber Connectivity – the main fiber connection would need to be physically moved from the High School to the new off site Server Complex.

Network and Server Hardware – equipment must be procured, installed, configured the restored from tape, DVD or offsite repository

Time Frames for Basic Restoration

Procurement:

- Procurement of servers, tape drive and UPSs: *approximately two weeks*
- Procurement of 3com/Cisco equipment: *approximately two weeks*
- Establishment of new site for Server Complex approximately *two days*
- Installation of electrical services: *approximately one week*
- Physical transfer of main fiber connection from the Middle School to new location – dependent upon LightPath availability: *approximately one week*

Note: Requisition, receipt and deployment of equipment (not configuration) should be concurrent, and the total approximation for procurement should be two weeks.

Configurations and Restoration of Data Center

- Construction of Data Center – physical installation and initial power-up of servers, universal power supplies, tape drives, and switching equipment (excluding telephones): *approximately one day*
- Configuration of e-mail and 3com/Cisco equipment (Core Switches, firewall and VLANs): *approximately four days*
- Reconstruction of all other critical servers (operating systems, etc.): *approximately three days*
- Configuration of other switching equipment: *approximately two days*

Telephones

The main telephone system Polycom VoIP phones are located within the district's Server Complex. If a catastrophic event impacts the 450 Nassau Blvd, in all likelihood the core of the district's telephone systems will also be rendered inoperable. The Optimum Lightpath Company is responsible for the district's PRI, SIP Trunks and Centrex lines, including their maintenance, repair and replacement, and they would be contacted to provide the equipment and service to get these lines operational again at another central location. CSD-Net is the telecommunications company the district should contact. To procure and install a replacement system using NYS Contract.

In the event of a total system failure at the main Middle School site, all other schools will be limited to POTS lines and our emergency cell phones provided by Verizon. Currently POTS lines are connected to our fax machines.

Approximate move and reconstruction of telephone equipment and services: *three weeks, depending on the availability of Optimum Lightpath and Network Outsource*

Time Frames for Full Service Restoration

Procurement of additional hardware: *approximately six to ten weeks*

Installation and Network Outsource for supplemental hardware: *approximately four to six weeks*

Installation of dedicated electrical service: *approximately one week*

Total time to complete full restoration of services for the West Hempstead Public Schools (including the four weeks to restore “Basic Services”): *approximately four to six months*

Summary

Assuming a catastrophic loss of the current Server Complex at 450 Nassau Blvd in West Hempstead, a rough estimate of the total time required to bring back all *basic* data and voice services to the district would be approximately four weeks.

An estimate of the total time to return to *full* service in the NOC would be four to six months.

APPENDIX A

Network/Telecom Infrastructure Timeline, Network Schematics

West Hempstead UFSD's Infrastructure Timeline **1996 -2022**

- CAT5\6 and multi-mode fiber to each classroom (1996-97)
- Single mode fiber from building to building 4+ miles (1997) MAN
- Fully managed\switched Multi-Gigabit Backbone
- Gigabit links between buildings utilizing secure VLANs, 10/100 Megabit to the desktop\classroom, 802.1p\Q Cos, Layer 3 switching at the core (1998)
- Centralized Server Complex provides ubiquitous access for all voice, video and data resources (1998)
- Bess proxy Internet content filter in-house (1999) upgraded (2007) Web Gateway (2011)
- Load balanced layer 4 Internet Access (1999)
- VoIP PBX including Voice Mail, Auto Attendants, CDR, etc. (2000)
- IP Video surveillance are in all buildings (2000)
- PRI voice\video conferencing sharing (2001)
- Video Conferencing installed all buildings (2009)
- Backbone and NBX upgrade with 3COM V5000/4900/4900SX (2001)
- Archive digital surveillance video (2002) all buildings updated (2011)
- Deployed district wide web based student information system
- Centerpoint (2005) Powerschool (2007) Nutrikids (2011)
- High School upgraded edge switches with 802.1af (POE) and 48 classrooms (2006)
- Internet bandwidth upgrade MetroEthernet (50meg up\down) 2006
- Approximately 1000 networked devices including VoIP telephones (2012)
- Backbone\Core upgrade 10 Gigabit (2010)
- Internet bandwidth upgrade FIOS 1500 Meg with Lightpath MetroEthernet for PowerSchool\IP Video Conferencing\
- Installed 110+ interactive whiteboards\Interactive Projectors (2010/2012)
- Deployed 150+ iPads 50+ iPod Touches (2011/2012)
- Deployed Office 365\mail system
- Deployed District-wide Wireless 802.11n\802.11ac 140+ access points
- Deployed Classlink and Google Enterprise for EDU cloud access \ collaborative sharing from anywhere
- Deployed 200 Chromebooks (2013/2014)
- Deployed RDS thin client now with Classlink we can have Windows apps on almost any device, tablets, Chromebooks, Macs, Pc's from anywhere
- Deployed new copier, fax, print solutions (2014)
- Deployed new SIP based phone system with 150+ Polycom phones (2017)
- Over one to one deployment of Chromebooks in grades 3-12 (2020)
- Deployed new copier, fax, print solutions (2020)
- Internet bandwidth upgraded 3 Circuits (2022)
- Backbone\Core upgrade 40 Gigabit (2022)
- More than One to one deployment of Chromebooks in grades 3-12 (2022)
- Deployed District-wide Wireless 802.11AX (2022)
- Deployed Lightspeed Web filter (2022)
- Deployed Barracuda New Web Security Gateway/Firewalls (2022)

V.Fleck WH 6-22

APPENDIX B

Instructional Technology Three-Year Roadmap

2022-2025

WH Instructional Technology Vision: To create and foster a community of learners in which instructional technology promotes deeper learning, authentic work, student agency and personalization, and purposeful technology integration.

District Goal: The goal is to integrate instructional technology into well-designed learning experiences to create highly engaged academic environments in which students are the drivers of their own learning experiences.

4 Shifts Protocol	Introduction/Action Research: 2020-2021
	Actionable Items
<p>Technology Infusion Classrooms are shifting from traditional methods such as pen/paper, notebooks, and binders to global connected environments that are deeply, and technology infused. Using mobile technologies to support this endeavor.</p>	<ul style="list-style-type: none"> ● Hybrid Concurrent Model. ● Teachers all transitioned to Google Classroom as a form of providing content to students and holding virtual classroom sessions. ● Seesaw as a Learning platform in Kindergarten. ● Secondary Level Project Based Learning with technology infusion ● Provided Functional Technology Support in the fall of 2020 with Google Classroom & the document camera. ● Tech Tip Thursday Newsletters with How-To Tutorials ● Survey sent out in the Spring of 2021 to garner understanding of technology infusion in the classroom.
<p>Authentic Work Students begin to move from isolated work environments to different opportunities to engage with the local, national, and global communities. Students engage in active networks to foster relationships.</p>	<ul style="list-style-type: none"> ● Students produced projects with programs such as Anchor, Canva, Thing link, Google Tour Builder, Google Sites, Book Creator, Google Sheets and Flipgrid. ● Students engaged in collaboration with peers using Google Meet Breakout Rooms ● In 2021, Talk & Tech's were held at the elementary level to provide instruction on various software's and programs to promote authentic work.
<p>Student Agency Classrooms are shifting to student-centered to enable greater student agency in their learning. It allows for students to have ownership of their learning.</p>	<ul style="list-style-type: none"> ● Nassau BOCES Model Schools Professional development in the Fall of 2020, and Spring of 2021. ● Student Choice in Secondary Level-Project Based Learning Projects.
<p>Deeper Learning Focus is on students engaging in higher-level cognitive learning tasks with creativity, critical thinking, problem solving, communication and collaboration.</p>	<ul style="list-style-type: none"> ● Administrative Book Discussion on the 4 Shifts Protocol. ● Administrative Team participation in Instructional activities to shift thinking toward the 4 Shifts Protocol. ● Engage in conversations with teachers informally about their rationale in their lesson design.

2021-2022: Focus: Deeper Learning & Authentic Work

<i>Responsible Party</i>	<i>Director of Instructional Technology & Staff</i>	<i>Director of Instructional Technology, Administration & Community</i>
<p>Deeper Learning Focus is on students engaging in higher-level cognitive learning tasks with creativity, critical thinking, problem solving, communication and collaboration.</p>	<ul style="list-style-type: none"> • Implement Pineapple Chart classroom peer to peer observations on deeper learning. • Teacher Led Talk & Tech’s at the elementary level. • Questioning and Problem Solving in Pre & Post Observations. • Using the <i>Edu Protocols</i> Book for Modeling and Lesson Designs as it provides opportunities for deeper learning. • Promote conversations in small groups with teachers and students to determine activities and assessments that shift to in more complex problem solving. • In-Class Visitations and publicizing student driven Work. • Collegial Circles with staff into key groupings for deeper learning: <ul style="list-style-type: none"> ○ Group 1: Doers ○ Group 2: Coaching/Mentoring Group ○ Group 3: Work on Unit-by-Unit Redesign ○ Group 4: Domain Oriented Work 	<ul style="list-style-type: none"> • Collaboration with Director of Instructional Technology to support lessons and units by departments. • Showcasing opportunities taken by Teachers & Students with Deeper Learning. • Use of common language in department meetings, faculty meetings, pre and post Observations as it relates to deeper learning and authentic work. • Canvas classrooms to determine if programs used for authentic work align with real-world application. • Provide and create exemplars tailored to engaging in dialogue about shifting work products and lesson design toward practical application of skills. • Conduct lesson studies through department meetings about current and future lessons for key aspects of both deeper learning and authentic work. • Share the work with the community and garner feedback on additional opportunities for students to hone their deeper learning skills and produce authentic work. • Collaborate with the new teacher academies in the district to support new year teachers in years one to four. The purpose is to share how to design lessons with instructional technology integration for the purpose of deepening learning and creating authentic learning opportunities.
<p>Authentic Work Students begin to move from isolated work environments to different opportunities to engage with the local, national, and global communities. Students engage in active networks to foster relationships.</p>	<ul style="list-style-type: none"> • Determine areas of the lessons to integrate authentic work opportunities. • Community Outreach to align in class lessons with opportunities for real world application • Engaging Students and Staff in lessons that promote research and information literacy strategies. • Collegial Circles with staff into key groupings for Authentic Work <ul style="list-style-type: none"> ○ Group 1: Doers ○ Group 2: Coaching/Mentoring Group ○ Group 3: Work on Unit-by-Unit Redesign ○ Group 4: Domain Oriented Work 	
<p>2021-2022-Support: Student Agency & Technology Infusion</p>		
<i>Responsible Party</i>	<i>Director of Instructional Technology & Staff</i>	<i>Director of Instructional Technology, Administration & Community</i>
<p>Student Agency Classrooms are shifting to student-centered to enable greater student agency in their learning. It allows for students to have ownership of their learning.</p>	<ul style="list-style-type: none"> • Use section C of the Protocol as a diagnostic tool to drive the conversation about opportunities to infuse student agency within deeper learning and authentic work lessons. • Nassau BOCES Model Schools professional development days to support the shifts. • Inquiry based designed lessons using Buck Institute & Dive into Inquiry model. • Student choice alternative assessments (Mid-Year and End of Year). • Lessons are designed for Special Education, ENL, and General Education students based on interest. • Teachers have a repository of technology tools to provide to students for student choice. 	<ul style="list-style-type: none"> • Share and publicize student agency projects through WH Social Media, Building Level Newsletters, Building-Level Assemblies, Instructional Technology Director Newsletter and Superintendent Weekly Update. • Collaborate with Building-Level Administrators and Curriculum Directors about department goals with student agency and redesigning curriculums to include student agency.

Technology Infusion

Classrooms are shifting from traditional methods such as pen/paper, notebooks, and binders to global connected environments that are deeply, and technology infused. Using mobile technologies to support this endeavor.

- Apply data derived from survey at the end of 2021 into coaching sessions with teachers.
- Update & Share Instructional Technology Plan with NYS.
- Introduce Digital Portfolios with Google Sites & Seesaw K-12.
- Develop Foundational Skills Scope & Sequence Grades K-3.
- Using Ed-Law 2D Compliant Programs.
- Tech Tip Newsletters Through Lens of 4 Shifts Protocol:
 - Which Programs/Ideas apply to which area of the Protocol
 - Highlight Staff & Students.
- Evaluate instructional software with survey & interviews.
- Implement NYS Digital Fluency & Citizenship Standards into lessons and units.
- Develop Instructional Technology Database of How-To for Teachers

2022-2023- Focus: Deeper Learning, Authentic Work, Student Agency

<i>Responsible Party</i>	<i>Director of Instructional Technology & Staff</i>	<i>Director of Instructional Technology, Administration & Community</i>
<p>Deeper Learning Focus is on students engaging in higher-level cognitive learning tasks with creativity, critical thinking, problem solving, communication and collaboration.</p>	<ul style="list-style-type: none"> 60-70 % percent of staff are design lessons with deeper learning at the forefront of their units and lessons. Small group PLC 's the engage in a lesson study at all levels. Student driven showcase of deeper learning opportunities. Co-teaching and Co-planning to model different instructional models that support the higher-level cognitive learning tasks. Long term project-based learning units in which teachers use the 4 Shifts Protocol in collaboration with the students. Students engage in conversations with teachers in small group settings to design lessons that are reflective, problem-solving focused and high levels of collaboration. Class visits between elementary and secondary to determine strategies and lessons that can be applied to both K-6 & 7-1. Individual Short- & long-Term goals with new groupings of teachers in the following groups. Support with observations, conversations, and lesson study. <ul style="list-style-type: none"> Group 1: Doers Group 2: Coaching/Mentoring Group Group 3: Work on Unit-by-Unit Redesign Group 4: Domain Oriented Work 	<p><u>Continue Work from 2021-2022</u></p> <ul style="list-style-type: none"> Evaluate progress of work though observations, PLC's, Small – Group Meetings and Survey data. Collaborate with District Office, Building Administration, and Curriculum Directors consistently to drive support and mentoring necessary. Support the work with Professional Development that is targeted, necessary, and applicable to the goal of designing lessons for
<p>Authentic Work Students begin to move from isolated work environments to different opportunities to engage with the local, national, and global communities. Students engage in active networks to foster relationships.</p>	<ul style="list-style-type: none"> 60-70 % percent of staff are designing lessons with authentic work at the forefront of their units and lessons. Students work on alternative assessments of their learning where they interact with the larger community and region. Develop hands-on learning experiences with the local community organization, and global organizations. Create New Courses at the secondary level which infuse interdisciplinary opportunities for authentic work with instructional technology (Experiential Learning). 	
<p>Student Agency Classrooms are shifting to student-centered to enable greater student agency in their learning. It allows for students to have ownership of their learning.</p>	<ul style="list-style-type: none"> 50% of staff implement various entry points for students to engage in lessons in which they are the drivers of the content and sharing of learning. Opportunities for student agency will come from: <ul style="list-style-type: none"> Student Led-Conferences Survey on Student interest and Long-Term Project Based Learning Opportunities. Director of Instructional Technology will model, and co teach with teachers to implement new strategies of student agency. Implementing the Explore-Explain-Apply Model of Instruction as a format for Student-Agency in acquiring content. 	

2022-2023-Support: Technology Infusion

<i>Responsible Party</i>	<i>Director of Instructional Technology & Staff</i>	<i>Director of Instructional Technology, Administration & Community</i>
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Technology Infusion

Classrooms are shifting from traditional methods such as pen/paper, notebooks, and binders to global connected environments that are deeply, and technology infused. Using mobile technologies to support this endeavor.

- Implement Digital Portfolios using Google Sites, Seesaw & Shared Drives.
- Re-Survey Staff about Technology used in lessons.
- Implement and support the Foundational Skills Scope & Sequence K-3.
- Using Ed-Law 2D Compliant Programs.
- Creating a budget that harness all the instructional tech programs through the Director of Instructional Technology to ensure Ed-Law 2D compliance and accurate oversight with purchasing
- Evaluate instructional software with survey & interviews.
- Implement NYS Digital Fluency & Citizenship Standards into lessons and units.

4 Shifts Protocol: Year 3 2023-2024-Focus: Deeper Learning, Authentic Work, Student Agency, and Technology

2023-2024- Focus: Deeper Learning, Authentic Work, Student Agency, and Technology

<i>Responsible Party</i>	<i>Director of Instructional Technology & Staff</i>	<i>Director of Instructional Technology, Administration & Community</i>
<p>Deeper Learning Focus is on students engaging in higher-level cognitive learning tasks with creativity, critical thinking, problem solving, communication and collaboration.</p>	<ul style="list-style-type: none"> • 75-90 % percent of staff are designing lessons with deeper learning, authentic work & student agency with technology infused. • Staff are designing more than half their units using the 4 Shifts Over Time Slide Deck. • Student Created YouTube Channel of Projects. • Student Led Conference/Ed-Camp sharing their work. • Co-teach/plan with teachers on instructing students in the how to assess valid resources for research- on being critical consumers of research. • Publishing of database of teacher lessons for reference to drive discussions and deeper learning by teachers. • Collaboration with local institutions of higher learning, work-based placements that allow students to apply skills learned. • Green Screen Rooms for student authentic work opportunities that model current industries. • Individual Short- & Long-Term Goals with new groupings of teachers in the following groups. Support with observations, conversations, and lesson study. <ul style="list-style-type: none"> ○ Group 1: Doers ○ Group 2: Coaching/Mentoring Group ○ Group 3: Work on Unit-by-Unit Redesign ○ Group 4: Domain Oriented Work 	<ul style="list-style-type: none"> • Re-Evaluate, Modify and Adjust based on work from 2021-2022 & 2022-2023 • Evaluate progress of work though observations, PLC's, Small – Group Meetings and survey data. • Collaborate with District Office, Building Administration, and Curriculum Directors to determine next steps and adjustments for the next three years.
<p>Authentic Work Students begin to move from isolated work environments to different opportunities to engage with the local, national, and global communities. Students engage in active networks to foster relationships.</p>		
<p>Student Agency Classrooms are shifting to student-centered to enable greater student agency in their learning. It allows for students to have ownership of their learning.</p>		
<p>Technology Infusion Classrooms are shifting from traditional methods such as pen/paper, notebooks, and binders to global connected environments that are deeply, and technology infused. Using mobile technologies to support this endeavor.</p>	<ul style="list-style-type: none"> • Re-Survey Staff about Technology used in lessons. • Determine New Instructional Technology Software & Applications. • Implement and support the Foundational Skills Scope & Sequence K-3. • Using Ed-Law 2D Compliant Programs. • Creating a budget that harness all the instructional tech programs through the Director of Instructional Technology to ensure Ed-Law 2D compliance and accurate oversight with purchasing • Prepare to update Instructional Technology Plan with NYS. 	

Three Year Instructional Technology Goals

Goal 1: Integrate instructional technology into the K-12 classroom for the purpose of deeper learning and critical thinking by students.

Standards: ISTE Standard for Students:

1-Empowered Learner: Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by the learning sciences.

- a. *articulate and set personal learning goals, develop strategies leveraging technology to achieve them, and reflect on the learning process itself to improve learning outcomes.*
- b. *build networks and customize their learning environments in ways that support the learning process.*
- c. *use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.*

3-Knowledge Constructor: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.

- a. *plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.*
- b. *evaluates the accuracy, perspective, credibility and relevance of information, media, data, or other resources.*
- c. *curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.*
- d. *build knowledge by actively exploring real-world issues and problems, developing ideas and theories, and pursuing answers and solutions.*

Actionable Items:

- Develop a resource page for teachers to access current and new instructional tools to infuse into lesson design.
- Continue to provide access to a variety of instructional tools that teachers can use to support students in their learning (Kami, Pear Deck, Seesaw, Google Docs, Slides, Sheets, Forms)
- Provide curricular support to teachers when infusing instructional technology in the form of small groups or one-on-one coaching with the Director of Instructional Technology.
- Collect data through surveys, classroom (**Observations**) to determine areas of success and growth as it relates to integration of the tools.
- Collaborate with the new teacher academies in the district to support new year teachers in years one to four on designing lessons with instructional technology integration for the purpose of deepening learning and creating authentic learning opportunities.

Goal 2: Provide opportunities for professional development on instructional technology tools to engage students in metacognition, creative expression, deeper learning of content and grade-level material.

Standards: ISTE Standard for Educators: 1-Learner Educators continually improve their practice by learning from and with others and exploring proven and promising practices that leverage technology to improve.

- a. *Set professional learning goals to explore and apply pedagogical approaches made possible by technology and reflect on their effectiveness.*
- b. *Pursue professional interests by creating and actively participating in local and global learning networks.*
- c. *Stay current with research that supports improved student learning outcomes, including findings from the learning sciences.*

Actionable Items:

- Provide access to professional development workshops in the form of Teacher Academies that relate to the functional and integration use of instructional technology tools.

- Continues to share the newest and current instructional technology tools and strategies through platforms such as Twitter, Instagram, WH App, and the Tech Tip Thursday Bulletin.
- Promote the integration of tools through support from professional development consultants, and Nassau BOCES Model Schools.
- Collect anecdotal data from all staff as to areas in which professional development is needed for instructional technology.

Goal 3: Promote digital literacy and digital citizenship through the implementation of Habits of Mind Curriculum in grades K-12.

Standards: NYS K-12 Computer Science and Digital Fluency Learning Standards

Digital Citizenship: This Standard begins in Grade Band 2-3.

2-3.DL.6 Describe ways that information may be shared online.

4-6.DL.6 Describe persistence of digital information and explain how actions in online spaces can have consequences.

7-8.DL.6 Explain the connection between the persistence of data on the Internet, personal online identity, and personal privacy.

9-12.DL.6 Actively manage digital presence and footprint to reflect an understanding of the permanence and potential consequences of actions in online spaces

Actionable Items:

- Promote Habits of Mind in research and information literacy to have students construct knowledge from all content areas to become life-long learners.
- Use instructional technology strategies to engage students in the Habits of Mind as it relates to content and grade-level instruction.
- HOM Curriculum in conjunction with digital literacy

Zone Paging – Example One



Paging Hierarchy

Page All Devices in District for Emergency / Lockdown Announcements / Mass notifications **PG25**

Chestnut Ave School

- SIP Classroom Polycom Phones(12) **PG1**
- SIP Hallway PA\Bell Speakers(10?) **Paging Server G1**
- SIP Outdoor PA\Bell(3) **Paging Server G2**
- SIP Office Phones(5) **PG2**
- Page all SIP Chestnut **PG4**

Cornwell Ave School

- SIP Classroom Polycom Phones(25) **PG5**
- SIP Hallway PA\Bell Speakers(15) **Paging Server G3**
- SIP Outdoor PA\Bell(5) **Paging Server G4**
- SIP Office Phones(7) **PG6**
- Page all SIP Cornwell **PG7**

George Washington School

- SIP Classroom Polycom Phones(30) **PG8**
- SIP Hallway PA\Bell Speakers(20) **Paging Server G5**
- SIP Outdoor PA\Bell(5) **Paging Server G6**
- SIP Office Phones(8) **PG9**
- Page all SIP George Washington **PG10**

Paging Hierarchy

Page All Devices in District for Emergency / Lockdown Announcements / Mass notifications **PG25**

Middle School

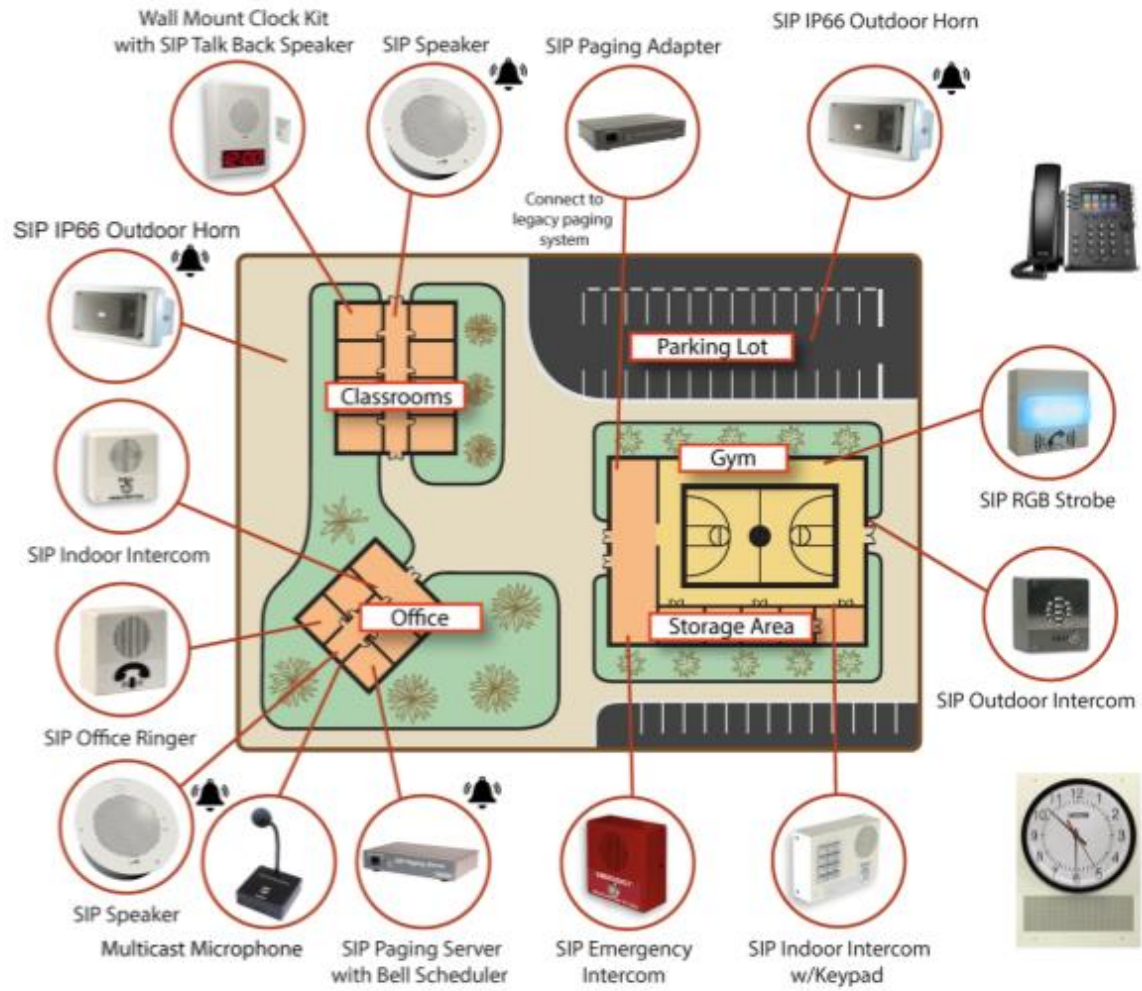
- SIP Classroom Polycom Phones(35) **PG11**
- SIP Hallway PA\Bell Speakers(20) **Paging Server G7**
- SIP Outdoor PA\Bell(10) **Paging Server G8**
- SIP Office Phones(18) **PG12**
- Page all SIP Middle School **PG13**

High School

- SIP Classroom Polycom Phones(55) **PG14**
- SIP Hallway PA\Bell Speakers(30) **Paging Server G9**
- SIP Office Phones(50) **Paging Server G10**
- Page all SIP High School **PG15**

Administration

- SIP Business Office Polycom Phones(25) **PG16**



ALGO

UC Integration

SIP Endpoints

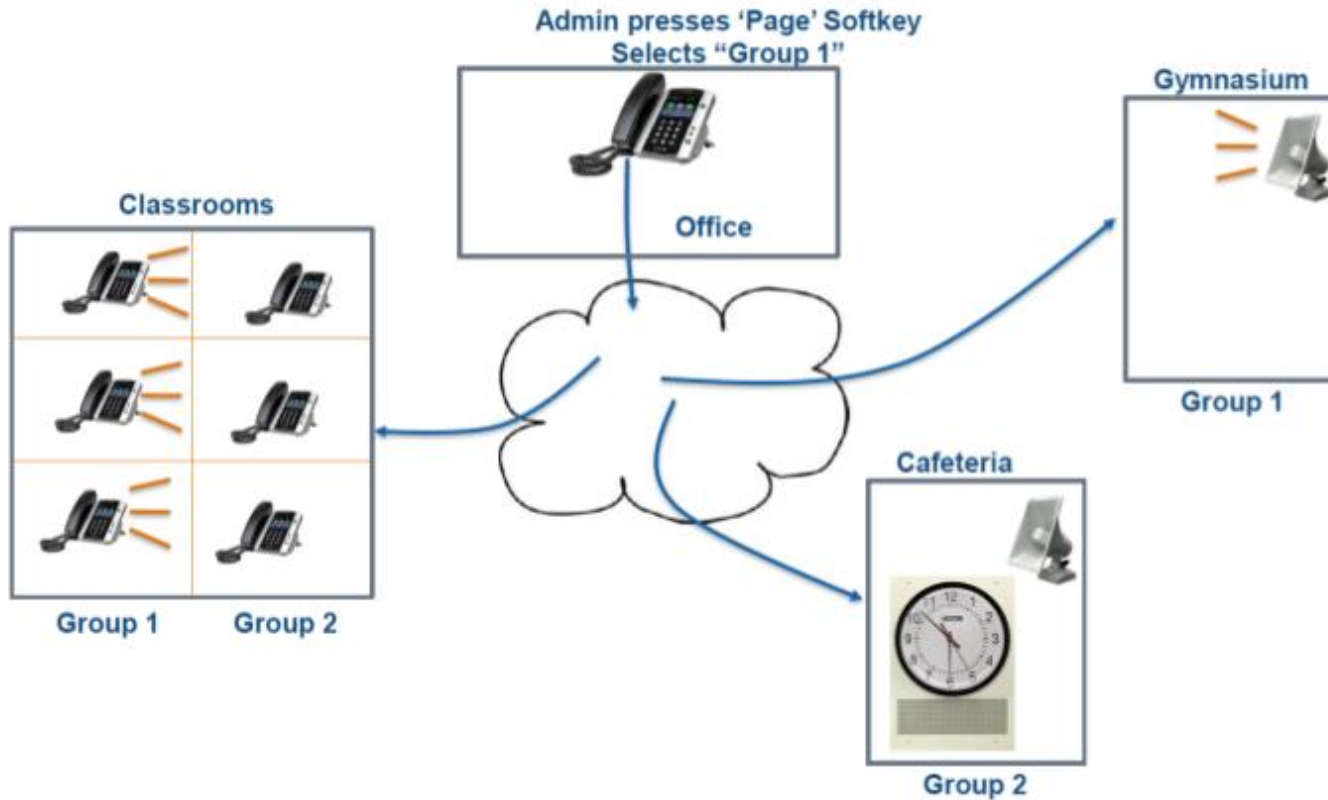


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Sample Application – School Campus

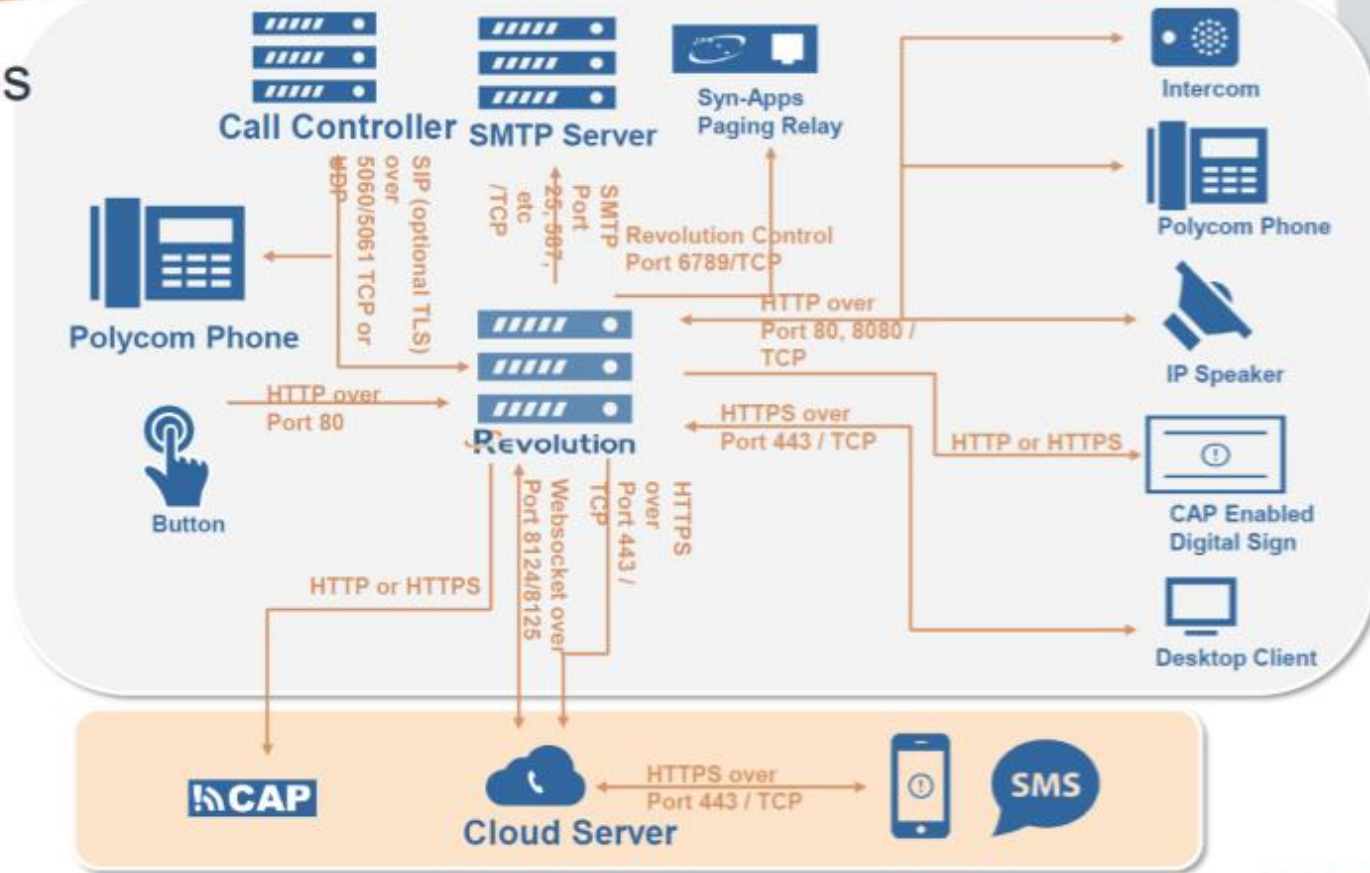


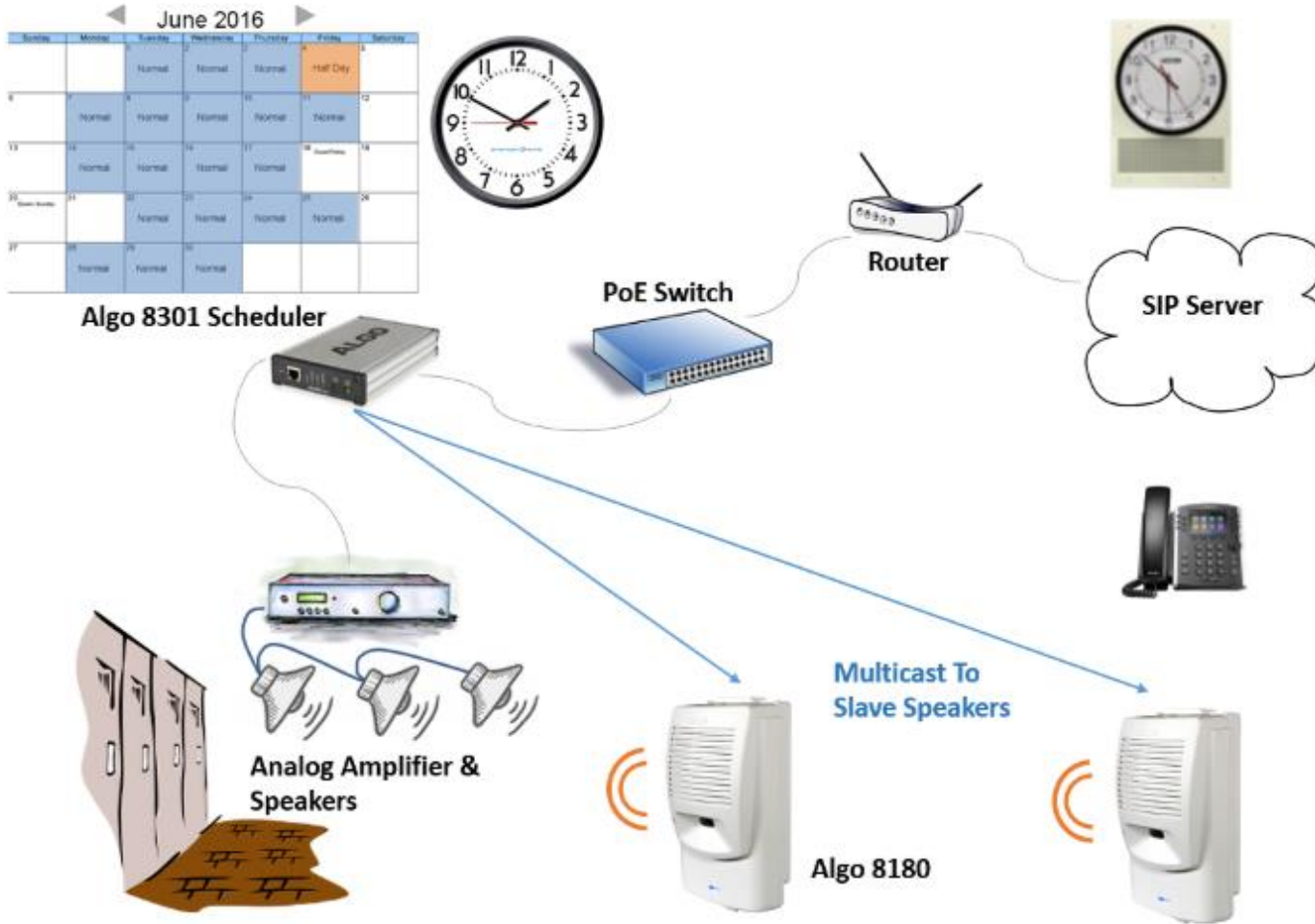
ALGO

Zone Paging – Example One



Syn-Apps





School Paging And Access Control Using CyberData Devices With Your VoIP Phone System

CyberData
The IP Endpoint Company



Multicast microphone can multicast out live messages to all our endpoints, while the SIP Paging Server can enable zone paging and scheduled announcements as well as **chimes and bells for class changes**, providing up to 250 scheduled events.

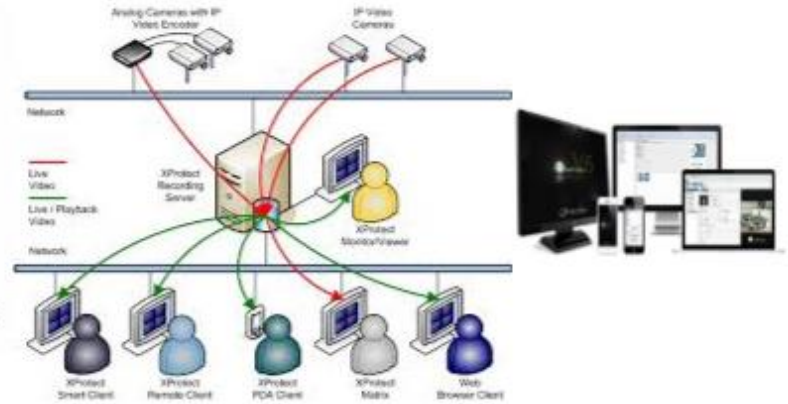
CyberData Intercoms and Secure Access Control Endpoints provide two-way communication and secure, safe entry to buildings or offices.

CyberData maintains one of the most comprehensive lists of IP PBX servers certified to work with our VoIP products

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