Educational Technology Plan

for

Stillwater Area Public Schools
Independent School District #834

July 1, 2019 - June 30, 2022

Educational Technology Planning Team 2016

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Executive Summary May 2019

Efforts over the last 3 years of technology planning and implementation have strongly stabilized the state of technology in the district. Major systems of improvement include a new network, high speed & high density wifi coverage, updated student & teacher devices, and an integrated system of learning databases. This means that students and teachers have access to working devices on a reliable network that facilitates access to effective online learning tools.

Moving forward we will continue to focus of device replacements, system upgrades, and the regular use of communication tools to connect parents, students, and teachers. Additionally, we have goals focused on curricular development. Our technology education initiatives must fall into one of three categories: (1) significant enhancement of student engagement, (2) teaching core technology skills that are vital to success in our modern world, (3) using technology to improve communication, ensuring that students are always connected to their learning environments.

Technology Plan 2016-2019 Recap:

The 2016-2019 Technology Plan outlines the goals and direction for technology development, as needed to support learning in the classroom. The major focal points of this plan have revolved around the basic tenets of: reliable access to devices, anytime anywhere access to online learning resources, universal identification of students and staff across disparate learning databases, and fully supporting our teachers and students with their technology needs. This is done to support a vision where technology is not the focal point of learning, but rather a vehicle that enhances learning outcomes.

Anytime Anywhere Learning

- Trained staff in the effective use of Google Classroom tools including all aspects of Google Apps for Education.
- Implemented Schoology for all 6th-12th grade classroom including the training of staff and the support to migrate from other platforms.
- Integrated Illuminate with Skyward to provide for a standardized, formative, and summative assessment system across PreK-12 providing teachers with access to their students longitudinal MCA reports as well as other internal and external academic reporting measures.
- Deployed CIPA compliant cyber safety instruction in K-5 classrooms and developed CIPA compliant cyber safety instruction for 6-12 classrooms.

Regular & Reliable Access

- Established system for managing replacement of old devices across district ensuring that staff knows which technology devices they can rely upon.
- Established a system for staff device replacements and repairs to ensure that staff are all equipped with a reliable device.
- Established a system for replacing iPads in K-2 classrooms to ensure reliable access.
- Upgraded and replaced Project Lead The Way (PLTW), Design & Make, and Journalism labs across the district.

Unified Experience

- Implemented database integrations to support Single Sign-On (SSO) so that when a student logs into our portal, they can easily access all of their online resources as the same person.
    - Skyward, Illuminate, Schoology, Classlink, Clever, E-Directory, CPSI
    - FeePay, SchoolCafe, Destiny, Versatrans, Google Apps, FastBridge
    - McGraw Hill, Holt Math, Edgenuity, Scholastic,
    - Typing Club, Think Central, ConnectEd, Study Island
- Set up student device logins default to Clever (Elementary Portal) or Classlink (Secondary Portal).
- Implemented Parent Portal with instructions for parents to access.

Fully Supported

- Reorganized IT Support structures
    - Technology Leadership Team
    - Technology Support Team
    - Innovative Technology Support Team

Infrastructure

- Implemented new Internet connection and WAN bandwidth to support standardized testing for all students.
- Implemented new firewall with intrusion detection and content filtering to keep staff and students safe.
- Implemented new wireless system to support 1+ devices for every staff and student on across our campuses.
- Implemented Computer/Chromebook obsolescence program to visually identify devices as supported and MCA compliant or not.
- Upgraded cooling and backup power facilities in district server room.
- Replaced and maintained battery backup systems to increase telephone and server reliability.
- Added access points and security cameras as needed to ensure the safety of all students and staff.

Curriculum

- Developed K-12 articulation for Programming/Coding and Engineering/Design skills.
- Implemented Design & Make program in middle school.
- Restructured PLTW in middle school to align with Design & Make.
- Supported redesign of 6th grade science with project-based, standards aligned robotics components (based on Next Generation Science Standards).
- Supported empathy based, project based, standards-aligned robotics components for elementary instruction in alignment with Coding & Design articulation.
- Supported Pathway development initiative at secondary level.

Introduction

Stillwater Area Public Schools Mission
The mission of Stillwater Area Public Schools, in partnership with students, family and community, is to develop curious individuals who are active and engaged leaders in an ever-changing world by challenging all students as they travel along their personalized learning pathways.

Learning & Innovation Technology Vision
Students can find and access their educational resources at anytime from anywhere. Personalized learning environments provide each student with unimpeded access to their unique educational resources. Students and teachers have regular and reliable access to standard classroom technology equipment that enables them to present and engage with each other in collaborative learning environments. Students learn and succeed in mixed-mode environments where they have access to other students, teachers, and a web of knowledge and resources.

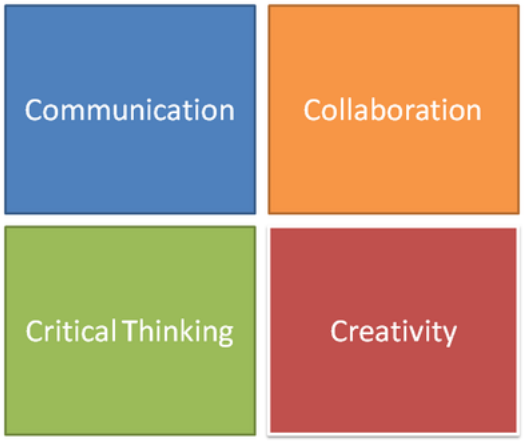
The Bridge to Excellence
The District's Bridge to Excellence plan was developed in order to drive program development forward with a visionary focus on personalization, passion, community, and safety. The district's technology system development must align to this vision. As such, this entire plan is developed through this lens.

Future Ready

Future Ready is an initiative sponsored by the Federal Department of Education through their Connect Ed Initiative. The focus of Future Ready is to create technology enabled schools that transform teaching and learning experiences by fostering digital learning opportunities. This includes supporting classroom innovation, universal access initiatives, professional development, and mentorship programs. Future Ready isn't about achieving a mile marker of success, it's about creating a culture of technology readiness that we sustain over time.

In October of 2015, Stillwater Area Public Schools completed its Future Ready Digital Readiness Report. This report identifies many key gaps in the district's current Future Ready status. The report recommends common sense improvements such as forming a technology council, establishing a curriculum map for 21st century skills development, and improving the district's technology infrastructure to support 24/7 access to technology enabled curriculum. Much of the work contained within this technology plan is designed to address the "Gaps & Strategies" revealed in the Digital Readiness Report (see link in appendix).

Future Ready Classroom Standard



The Classroom Standard is meant to be an idealized standard of the technology that a typical classroom should be resourced with to support the 4Cs: Critical Thinking, Communication, Collaboration, and Creativity. The reality is that many classrooms are setup for distinct purposes that will contradict this standard, and in those cases, deviations should and must be made. Additionally, the classroom standard will not fit with many current space limitations. As we transition from paper-based to personalized digital learning environments, the Classroom Standard will be required to evolve toward universal access where every student has a device when they need a device. For budgeting purposes, our goal is to provide a device for every two students enrolled in our district (2:1).

Based on a class-size of 32:

K-1 - 3:1 ratio of students to tablets.
2-5 - 2:1 ratio of students to chromebooks
6-8 - 3:2 ratio of students to chromebooks
9-12 - 3:2 ratio of students to chromebooks

1 teacher laptop setup for attendance, grading, curriculum creation, and streaming media, and interactive purposes.

1 multimedia setup: document camera, large interactive visual display (75” minimum), classroom audio (30-60 watts), and an optional secondary device.

Wireless network availability for 64 simultaneous device connections.

8 wired network connections that facilitate numerous classroom configurations.

Minimum of 1Mbps of Internet bandwidth allocation per user.

Personalized portal learning gateways (website connecting each student to all resources).

Future Ready Media Center Standard

Library Media Centers (LMC) are at the core of Future Ready schools. LMCs provide the hub for learning resources that all students and teachers can access in order to fully engage in student driven project based learning.

Library Media Specialists provide standards aligned professional development, curricular, and media support for other teachers and students. Their role is pivotal in connecting classrooms with ancillary resources and the instructional practices for incorporating those resources.

All Library Media Centers:
Sufficient access to paper books for leveled reading.
Chromebook devices for individual student checkout - (5% ratio).
Access to 3 research databases.
Campus access for printing.

Elementary Library Media Center Resources:
Chromebook devices for media center use - cart of 36.
Video Production Space
Next Generation Media Carts:
-Supply of 16 iPad devices that support the production of audio and video presentations.
-Robotics devices that support coding curriculum.
-Maker Space carts that support prototyping with a variety of materials.

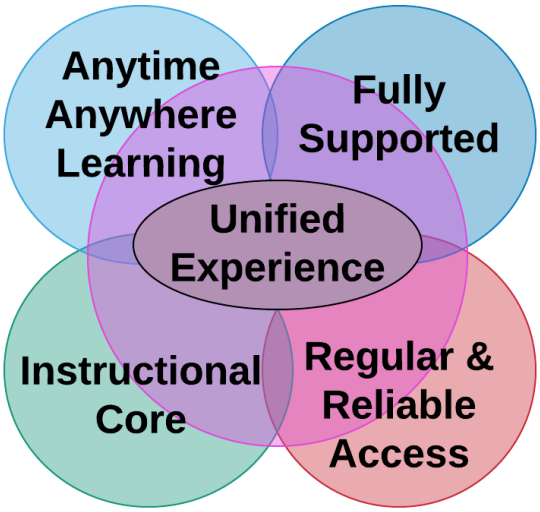
Secondary Library Media Center:
Chromebook devices for media center use - cart of 36.
Supply of 32 iPad devices that support the production of audio and video presentations.
3D printer access

Educational Technology Tenets

Educational technology is unique because the technologies used are designed to meet the needs of students and teachers in an academic setting as opposed to a business or recreational setting. In an academic setting, users need broad but secure Internet access, internal and external access to teaching and learning resources, heterogeneous device support, and the ability to adapt to a rapidly changing environment. In order to properly plan for the future of technology in an academic setting, there must be an understanding of the challenges faced by students and teachers. To that end, the following five tenets are designed to align and focus the technology systems that are implemented:

Anytime Anywhere Learning - Students, parents and teachers can access academic lessons and resources from anywhere in the world at anytime, day or night. Student's are always learning and their learning environments are always open to them.

Unified Experience - Students and teachers can access all of their academic resources from one place, using one user-id and password.



Fully Supported - Students and teachers have access to the training, professional development, technical, and academic support personnel they need to be able to effectively use technology on a daily basis.

Regular & Reliable - Students and teachers have regular access to technology whenever they require it; and the technology works whenever they use it.

Instructional Core - In classroom, online, and media program curriculum are aligned and develop future ready students. Students knowledge, skill, and ability to navigate the information world in a safe and responsible way.

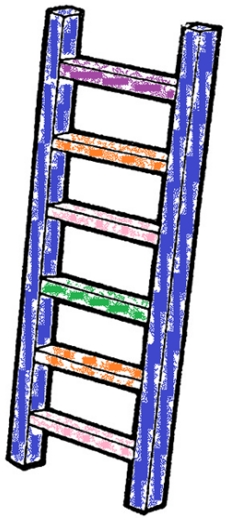
Educational Technology Tenet Wheel

Technology Learning Systems Hierarchy

Instructional Technology components are most effective when they are systematically aligned to directly support student learning environments using the five tenets: Arranging technology systems into a hierarchy facilitates planning, implementation, and the future evaluation of the complete teaching and learning technology platform. Each layer of the hierarchy is dependant on the layer beneath it. In effect, the top of the hierarchy is the most visible system in place; and its function is dependent on the proper and consistent function on the hidden systems beneath it. Developing systems that support Personalized Learning Environments is a key goal of the district's Bridge to Excellence plan and therefore all systems are designed to support that outcome.

Hierarchy by Dependency

Personalized learning environments	(Software)
Staff-based instructional support team	(People)
Cloud enabled learning resources	(Service)
Single sign-on functionality (SSO)	(Software)
Student & Staff Devices	(Hardware)
Staff-based technology support team	(People)
Automated security and account management	(Service)
Integrated database architecture	(Software)
Network infrastructure	(Hardware)
Staff-based infrastructure support team	(People)



Hierarchy by System Type

Software

These systems work together to support a unified learning environment in which a student can login from anywhere at anytime and access their personal learning resources.

Personalized learning environments - These are websites with customized resources for each student embedded in them. Acting as an aggregate point for all available resources, this is a single web portal where students can go online to have instant access to all available learning tools.

Single sign-on functionality (SSO) - SSO is a background software service that enables students to log in once and have secure access to multiple systems, or to at least be able to log in to disparate systems using a single username and password.

Integrated database architecture - Integrating databases is a process of creating interfaces between data systems so that when a student is enrolled in one, they are automatically populated in another. This ensures that when a student is enrolled, on day one, that student is populated in all other school related systems.

People

These are the individuals and teams who support our teachers and students in their learning environments.

Staff-based instructional support team - This team is responsible for assisting teaching staff with their professional practice. They help teachers develop strategies for delivering high quality education.

Staff-based technology support team - This team's primary focus is on ensuring regular and reliable access to building and classroom based technology resources.

Staff-based infrastructure support team - This team's primary focus is on ensuring regular & reliable access to our network and server systems for all staff and students in support of anytime anywhere learning. They are also responsible for implementing and maintaining many of the software programs and services within the Hierarchy of Systems.

Services

Services are generally resources that are subscribed to, not owned by nor residing within any district building.

Cloud enabled learning resources - These are websites or web accessed programs that directly support student learning. These resources would be included in a student's individualized learning environment or available through a common web portal.

Automated security and account management - These are services that assist in connecting students to local and cloud enabled learning resources. This is how we ensure that single sign-on works.

Hardware

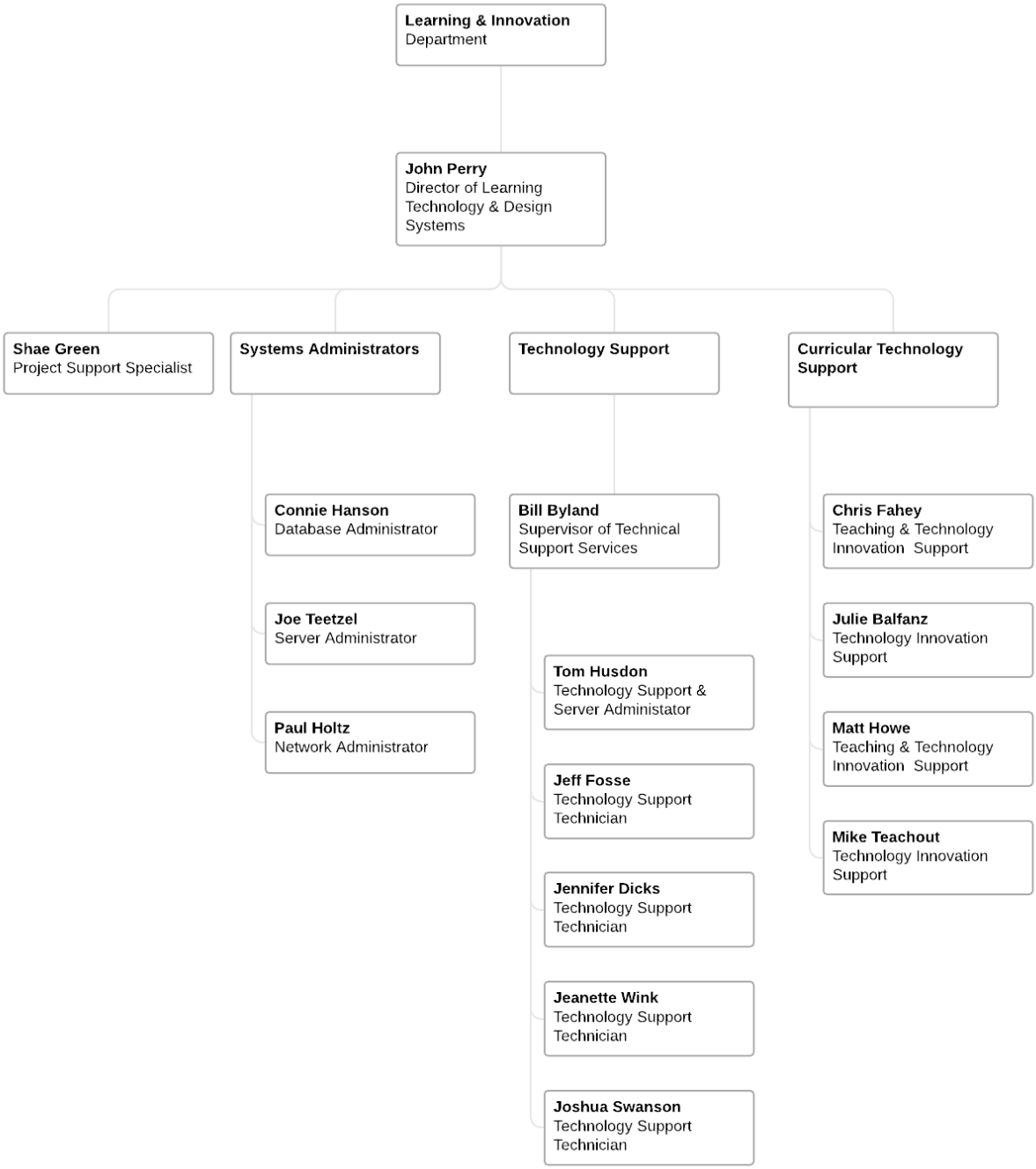
Hardware is the collection of physical devices that we generally refer to as 'technology'.

Student & Staff Devices - Laptops, Chromebooks, iPads, etc; these are the tangible technology tools that we put in the hands of students and teachers.

Network Infrastructure - This is the network switches, routers, fiber-optics, wireless access points, and servers that function to ensure that our students and teachers can reliably connect to the Internet.

Fully Supported Technology

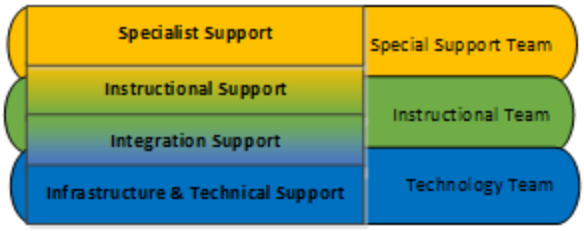
Staff-based instructional support team ***(People)***
Staff-based technology support team ***(People)***
Staff-based infrastructure support team ***(People)***



Systems of Support

Aligning Support

Effective technology support requires having the right people in the right positions. It also requires alignment between those positions. ISD#834 support systems have four separate categories that need to be aligned into three separate, overlapping, teams:



The technical team is responsible for ensuring that the infrastructure and devices used by teachers and students are reliably functional. The instructional support team is responsible for providing primary and intervention instructional support to classrooms. The special support team is responsible for providing high-level interventions for student instruction. Together, these teams ensure that classrooms are supported to deliver high quality, technology enabled, instruction.

Access to Support

At Stillwater Area Public Schools, access to technology support is initiated through a trouble-ticket system. This allows any staff member to submit a support ticket for any technology related problem. The ticket is then forwarded to the most appropriate staff member for a resolution. The primary issue affecting this system's function today is an insufficient number of technicians to adequately cover the number of sites and the number of devices. Resolving this issue requires two changes:

1) Stillwater requires 5-6 technicians to cover the geographic area. This keeps technicians relatively close to their supported clients.
2) Stillwater needs to implement an obsolescence system to remove devices from circulation that are beyond end-of-life. These systems can take up to 10x more support hours than a newer device.

By initiating these changes, Stillwater can ensure that all staff are supported efficiently with their technology concerns, which will increase the effectiveness of technology in the classroom that directly supports teaching and learning.

Professional Development & Training

Professional development & training that supports the Future Ready initiative is required in order to support teachers with the transition of resources to cloud-based infrastructure. Additionally, these resources are specifically designed to address the 4Cs of 21st century learning environments in alignments with Minnesota State and Common Core education standards: Communication, Collaboration, Creativity, and Critical Thinking.

In order to facilitate the application and development of these skills, this plan intends to standardize the deployment of Chromebook devices to the classrooms, increase the robustness of the network, and expand the bandwidth of the Internet. By supporting the move towards universal device access in classrooms; teachers and students can use Google's classroom environment and other online resources to access information, perform critical analysis, develop group reports, and digitally present findings.

This level of technology access can be an asset to teachers and classrooms if the correct resources are adopted and implemented in the right way. Teachers are required to take attendance, perform grading, formally assess student progress, communicate with students and parents, and collaborate with their peers. By implementing Student Information System (SIS) resources and an exceptional Learning Management System (LMS), the district can improve the efficiency and ability of the teacher's performance. Proper implementation must include adequate and ongoing training on system use in a way that assists and facilitates the work that teachers do, rather than adding another layer of burden.

With Google, SIS, and LMS resources in place, the district can get to the essential work of assisting staff in developing Project Based Learning (PBL) initiatives that begin to transform classroom learning. This involves a deep intersection between our curriculum development, our professional development systems, and the regular and reliable access to resources that the district provides to teachers and students.

Working in an Internet connected classroom with this level of access to devices and online resources also require the development of Cyber Safety, Information Literacy, and Threat Awareness skills. In order to keep staff and students safe, while expanding their access to vital 21st century resources, trainings must take place that creates a common language and set of expectations around the proper use and recourse of error for these environments. In addition to the moral and ethical needs, the federal Child Internet Protection Act (CIPA) also prescribes that school districts provide this support to all students.

Fully Supported Technology Goals

(FST1) Fully Supported Technology #1 Media centers will be open and available to support student learning throughout the learning day.		
Action Item	**Timeline**	**Cost Estimate**
Develop community partnerships to support library staffing.	November 2018	$0
Increase Volunteerism	Annually	$0
Add site programs for media center volunteers	Annually	$0
Deploy 1 set of student computers devices (chromebook) to each building media center to support technology learning activities during and after the school day	February 2020	$120,000
Deploy chromebooks to all school libraries equal to 5% of the student population for student checkout.	November 2021	Recycle existing devices through obsolescence planning
Monitoring & Evaluation		
Data Collected	**Timeline**	**Expected Outcome**
Device to student ratios	Annually	2:1
Checkout Availability by School	Annually	20:1

(FST2) Fully Supported Technology #2 Teachers will have access to instructional technology support for lesson development and delivery.		
Action Item	**Timeline**	**Cost**
Establish instructional technology support standards	June 2020	$0
Publish instructional support standards	September 2020	$0
Establish survey for mapping support needs	November 2020	$0
Use survey data w/ coaches and technology support staff to increase teacher supports.	February 2021	$0
Monitoring & Evaluation		
Data Collected	**Timeline**	**Expected Outcome**
Survey Data	January 2021	Knowledge gap map

(FST3) Fully Supported Technology #3 Establish a training program for parents to support access to core district resources online.		
Action Item	**Timeline**	**Cost**
Create and publish parent documentation for online access	July 2019	$0
Establish ‘parent support nights’ at each school in cooperation with PTA/PTO	September 2019 Annually	$0
Develop additional parent support tools to improve parent education process	Annually	$0 - $5,000
Monitoring & Evaluation		
Data Collected	**Timeline**	**Expected Outcome**
Number of parents accessing Schoology and SeeSaw	January 2020	84%
Number of parents accessing Schoology and SeeSaw	January 2021	90%
Number of parents accessing Schoology and SeeSaw	January 2022	96%

Regular & Reliable Technology Access

Network infrastructure ***(Hardware)***
Student & Staff Devices ***(Hardware)***

Network Infrastructure

The District's network infrastructure is the backbone of all technology systems. As a core fundament of any technology environment, it is necessary that this infrastructure is robust and reliable. As we scale up our usage of technology in the classroom, we need to also ensure that we are expanding the capacity of our backbone components. This capacity is measured in terms of throughput: Mbps (Megabits per second), Gbps (Gigabits per second), and Mpps (Million packets per second). Based on standards set forth in the National Education Technology Plan, the District should be targeting 1-10 Mbps/user of total available bandwidth.

From student to Internet, this means:

A classroom Wi-fi access point should provide: 40-400Mbps
A School of 1,000 students and staff should provide: 1,000Mbps-10,000Mbps or 1Gbps-10Gbps
A District of 10,000 students and staff should provide: 10Gbps-100Gbps

The network infrastructure backbone is comprised of five basic components; The Edge, The Core, Distribution, Wireless, and Servers. The District's upgrade initiatives will be focused on the capacity of these components.

The Edge

Edge network services include the District's DMZ switches, firewall, threat detection/prevention, content filter, and VPN services. The current capacity of this equipment is meeting demand with a maximum of 4 Gbps throughput during our heaviest load time. We have the ability to expand to 5Gbps and expect to be looking at 10 Gbps capable systems as bandwidth demand grows.

The Core

Core network services are generally consolidated into one physical chassis with many functional cards. This device acts as an aggregate for all network services across all sites, including all Internet traffic. As such, a network's core switch needs to be the most powerful and reliable piece of network equipment employed. This device's performance is measured in terms of bandwidth (Gbps) and capacity (Mpps). Our current system is capable of exceeding 2000 Gbps and 1900Mpps in total backplane performance. In the last 3 years, we upgraded our core and have sufficient bandwidth to meet all future expected demand increases for at least 5 years,

essentially eliminating any potential for internal bottlenecks that could affect user performance on the network in the foreseeable future.

Distribution

Distribution network services are located at each district site. One primary distribution layer switch is located within each facility. These switches act as aggregates for their respective sites and also play a subservient role to the core switch. The connection between the core and distribution layers of the network makeup the sites Wide Area Network (WAN) connections. These are the network devices through which school sites receive a connection to the Internet.

All Distribution layer switches have been recently upgraded. In addition, they have been provided with battery backup systems that ensure basic operation of emergency radios and some telephone on campus during a power outage. Like the core, these switches are capable of meeting district requirements for the foreseeable future.

Wireless

Wireless network services provide the primary connection for the majority of devices used on every campus. This connectivity demand is expected to exceed one connection per user. A district's wireless network needs to be able to accommodate connection density (number of simultaneous geographic connections) as well as meet individual bandwidth requirements. In order to accomplish this, districts need to deploy wireless networks that are designed for high density, high throughput, performance. That is, networks containing thousands of devices; all with simultaneous access to media rich content.

In recent years we upgraded our wireless network to meet these rigorous needs. The district network can now support 2 devices per user simultaneously connected to the network. Geographic coverage maps are overlapping, which creates coverage redundancies and increases reliability the system during individual device failures.

During the first two years of operation, the new wireless network required numerous manufacturer patches and firmware upgrades to resolve technical problems in the access points that supply wireless connectivity. All issues have been resolved with over a year of reliability post final update.

The District's wireless needs are more than sufficient to handle MCA testing and other intensive tasks. The current focus in on adding coverage to areas (mostly outdoors) that did not require coverage at the time of implementation. This is generally limited to very specific needs. No major upgrades will be required for the foreseeable future.

Servers and Storage

Servers

From an infrastructure perspective, servers provide basic services that are necessary to the network's daily function. These services include DHCP (Dynamic Host Configuration Protocol), DNS (Domain Name Services), and Directory Authentication. Server and storage infrastructure needs to be replaced on a 4-5 year basis. This is necessary to meet increasing demand for processing power and storage for data files. The District will need to replace it's core server from during the 2020 calendar year. Additionally, the District's phone system is at its End Of Life (EOL) and there may be an opportunity to combine these solutions into a more cost effective model.

For the purposes of management and outage impact mitigation, servers need to be classified in tiers. These tiers assist in determining the severity of any planned or unplanned outages, and allow us to respond accordingly; as well as provide guidelines for service requirements, replacement, and disaster recovery expectations.

Tier 1 Servers

- Outage affects 50% of the organization or 500 staff users.
- Outage affects multiple classrooms on multiple campuses.
- Outage disrupts all district communications.
- Servers require 24/7 support contracts for parts & labor.
- Servers must be less than 3 years old.
- Servers should be deployed with some level of redundancy.
- Backups include nightly full emergency data sets.
- Backups include nightly differential and weekly full data sets.

Tier 2 Servers

- Outage affects multiple classrooms on a single site.
- Outage affects 20% of the organization or 200 staff users.
- Outage disrupts some district communications.
- Servers require 24/7 support contracts for parts & labor.
- Servers must be less than 5 years old.
- Backups include nightly differential and weekly full data sets.

Tier 3 Servers

- Outage affects a single classroom
- Outage affects less than 20% of the organization for less than 200 staff users.
- Outage disrupts minimal communications.
- Servers should be less than 8 years old.
- Backup are limited to critical data only.

Storage

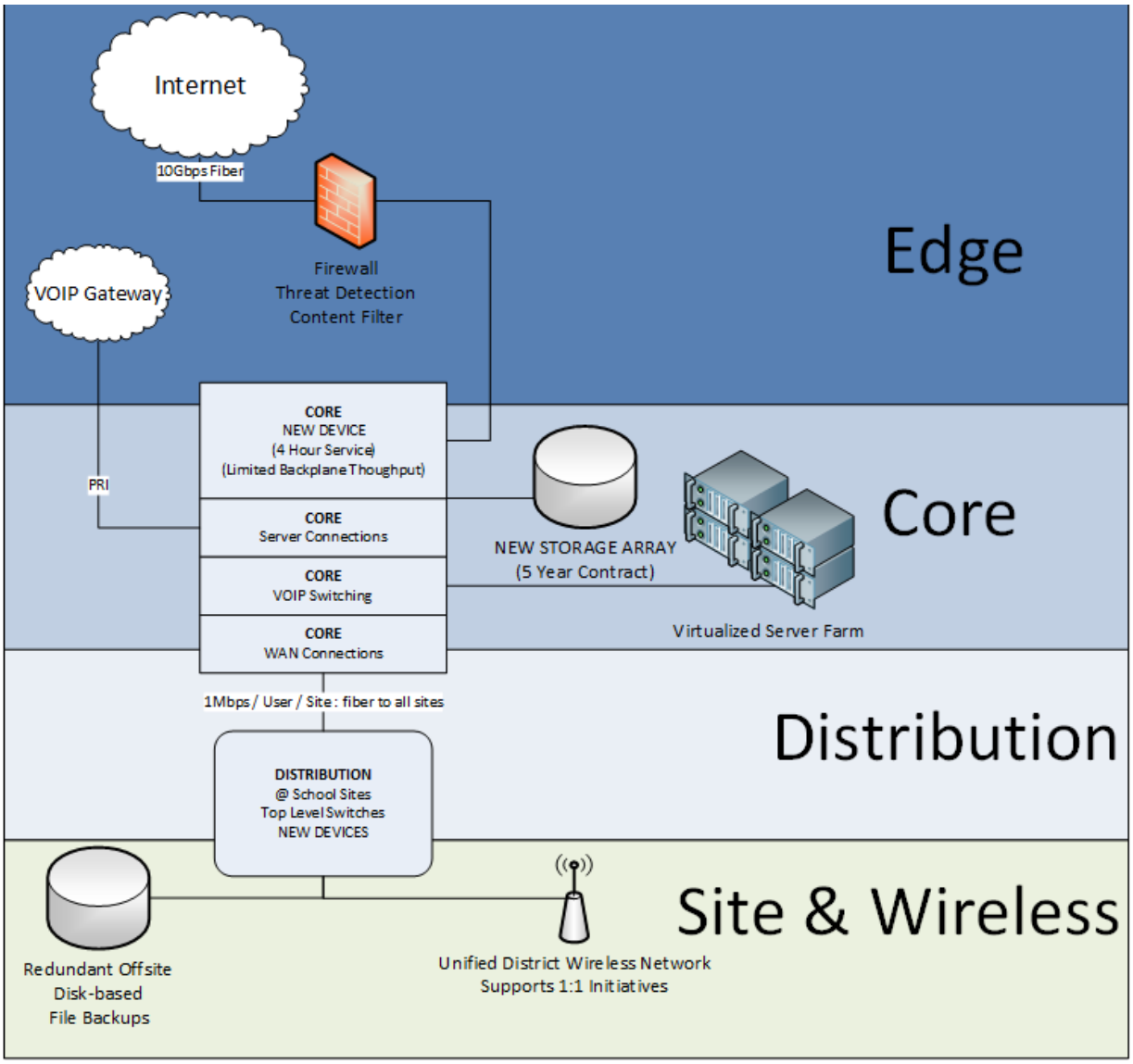
The District has moved to a hyper-converged environment where storage and processing power are acquired and deployed in tandem. This means that, in general, storage considerations are not separate from server considerations. As a result of this new technology, the District no longer plans for storage solutions separate from server solutions.

Disaster Recovery

In addition to the district's primary storage arrays discussed above, the district requires a data backup and restore solution. This solution should allow for multiple backups to be run simultaneously over the district's WAN, providing off-site redundancy. This can be accomplished by utilizing low-cost, low-performance, NAS systems. These systems may be installed on or off district sites. Due to their secure nature, the district's disaster recovery plan is not discussed here.

Network Infrastructure Diagrams

Network Map



Staff & Student Devices

Staff and students require reliable, up-to-date devices in order to engage in the modern business of teaching and learning. All currently available curriculum today has some technology based component which requires accessing the Internet. Many curriculums are almost completely online. The most advanced public school systems have already deployed one-to-one take-home programs where each student is assigned a personal device beginning as early as grade 3.

Before embarking on a take-home type program, the use of reliable technology in the classroom needs to be normalized. Once classrooms have regular access to devices, teachers can develop new lesson plans that take advantage of their availability. As teachers and students develop a new way of teaching and learning through technology, the district will need to continue to re-evaluate what appropriate technology deployments look like for ISD#834

All deployed technology devices have a limited useful life. A laptop's life cycle is optimal for 3 years, useful for 5 years, and beyond end-of-life after 8 years. A chromebook's life cycle is optimal for 3 years, useful for 4 years, and beyond end-of-life after 5 years. Comparatively, the TCO (total cost of ownership) for these devices is:

Laptop: $240/year (based on 5 year replacement)
Chromebook: $75/year (based on 4 year replacement)

This plan uses a device's "useful" life for budgeting purposes. It is important to know when a device should be replaced, but it is equally important to know at what point a device has exceeded its useful life and is beyond end-of-life. Devices beyond end-of-life need to be removed from circulation for two basic reasons. First, these devices are not reliable and cannot be made reliable due to a lack of manufacturer support. Second, the hidden cost of supporting these devices far exceeds their monetary value. For these reasons, devices exceeding their useful life must be removed and replaced. Ideally, this will happen on the planned replacement cycles, however with the constant flux in educational funding, some room must be present for adjusting as necessary. With regard to supplying for and meeting the technology needs of classrooms, prioritizing these replacement cycles within the annual operations budget is critical to the continued success of Stillwater Area Public School's technology initiatives.

Student iPad & Chromebook Devices

School Name	Min. required # for Testing	Current Total Supported	Exp. 2019	Exp. 2020	Exp. 2021	Exp. 2022	Expired & in use	Total iPads (K-2)	
Afton-Lakeland	108	219	0	29	36	154	64	90	
Andersen	72	161	0	41	36	84	76	90	
Brookview	108	168	0	0	36	132	122	90	
Lake Elmo	180	200	0	0	0	200	124	150	
Lily Lake	108	222	0	11	108	103	94	90	
Rutherford	108	203	0	8	0	195	182	150	
Stonebridge	108	207	0	6	0	201	131	90	
OMS	340	739	0	184	0	555	277	0	
SMS	340	821	0	320	140	361	228	0	
SAHS	1360	2244	68	163	97	1916	308	0	
Total	2832	5184	**68**	**762**	**453**	**3901**	**1606**	**780**	

School Name	Target# 3 to 1 Support*	Chromebook Annual Replacement (4-year)	Estimated Annual Cost ($300/ea)		iPad Annual Replacement (5-year)	Total iPads (Other)
Afton-Lakeland	150	38	$11,400		18	$5,940
Andersen	115	29	$8,700		18	$5,940
Brookview	155	38	$11,400		18	$5,940
Lake Elmo	225	56	$16,800		30	$9,900
Lily Lake	165	42	$12,600		18	$5,940
Rutherford	205	51	$15,300		30	$9,900
Stonebridge	155	39	$11,700		18	$5,940
	2 to 1*					
OMS	471	118	$35,400			
SMS	538	135	$40,500			
SAHS	1466	367	$110,100			
Total	**3512**	**913**	**$273,900**		**150**	**$49,500**

**Sites are asking for one device per student to provide universal access across the district*

Staff Computers
(estimates)

School Name	(Oct 2018) Enrollment	Staff Estimate	Laptop ($1200)	Desktop ($800)	Cost
Afton-Lakeland	448	40	36	4	$ 46,400
Andersen	343	40	36	4	$ 46,400
Brookview	444	40	36	4	$ 46,400
Lake Elmo	663	50	44	6	$ 57,600
Lily Lake	485	40	36	4	$ 46,400
Rutherford	599	50	44	6	$ 57,600
Stonebridge	455	40	36	4	$ 46,400
OLJH	944	80	72	8	$ 92,800
SJHS	1066	80	72	8	$ 92,800
SAHS	2904	160	140	20	$ 184,000
District Other		120	60	60	$ 120,000
Total	8351	740	612	128	$ 836,800
	(5-year)	**Annual**	**122**	**26**	**$167,360**

Staff computers are designated to be replaced on a 5-year cycle*. Staff will be provided with access to technology devices that best fit their professional or curricular focus. This includes access to laptops and desktop computers with Macintosh, Windows, or Chrome operating systems. These Annual Cost funding numbers are perpetual and will be a part of the continuing budget development process.

** Due to current budget concerns, there is are no substantial funds to support systematic computer replacements. Until more funding is identified for classroom technology support, computers will remain in use until repair or replacement is unavoidable.*

Computer Power Labs

	Full Labs	Size of Labs	Special Labs	Special Cost	Cost of Labs
Stillwater Middle School	2	36 (40)	2	$20,000	$128,000
Oak-land Middle School	2	36 (40)	2	$20,000	$128,000
Stillwater Area High School	3	40	10	$60,000	$240,000
				Total	$538,000
				Annual	**$107,600**
Special Labs Include: Art Lab, Graphic Arts Lab, Design & Make Labs, and PLTW Labs.					

Computer Power Labs are only supported on secondary campuses (grades 6-12). Power labs are designated as such because they support the use of high-end computing software that exceeds the capabilities of a simple Chromebook or iPad device. These labs supports graphic design, computer rendered animation, architectural system design, and some computer science programming environments.

** Due to current budget concerns, there is are no substantial funds to support systematic computer replacements. Until more funding is identified for classroom technology support, computers will remain in use until repair or replacement is unavoidable.*

Regular & Reliable Technology Access Goals

(RRTA1) Regular & Reliable Technology Access #1 Ensure that all students have reliable access to relevant technologies that support their learning at school and at home.		
Action Item	**Timeline**	**Cost**
Purchase, Deploy, Assign Chromebooks to sites for student use.	Annual	$273,900
Purchase, Deploy, Assign iPads to sites for student use.	Annual	$49,500
Pilot Middle School BYOD Program	September 2019	$10,000
Expand BYOD Program	September 2020 Annual	$10,000
Monitoring & Evaluation		
Data Collected	**Timeline**	**Expected Outcome**
Chromebook access ratio	Annually	Funding dependent
iPad access ratio	Annually	Funding dependent

Regular & Reliable Technology Access Goals Continued

(RRTA2) Regular & Reliable Technology Access #2 Replace staff devices after 5th year of service (device)		
Action Item	**Timeline**	**Cost**
Replace devices over 5 years old	Annual	$167,360
Monitoring & Evaluation		
Data Collected	**Timeline**	**Expected Outcome**
Help Desk Inventory	Annually	Funding dependent

Regular & Reliable Technology Access Goals Continued

(RRTA3) Regular & Reliable Technology Access #3 Replace power labs every 5-years		
Action Item	**Timeline**	**Cost**
Replace SAHS: Arts Lab	September 2020	$32,000
Replace SAHS: Graphic Arts lab	September 2022	$64,000
Replace SAHS: PLTW	September 2021	$20,000
Replace OMS : PLTW	September 2021	$20,000
Replace OMS : Design & Make	September 2022	$20,000
Replace SMS: PLTW	September 2021	$20,000
Replace SMS: Design & Make	September 2022	$20,000
Monitoring & Evaluation		
Data Collected	**Timeline**	**Expected Outcome**
Inventory	Annually	Lab meets classroom teacher curricular expectations

(RRTA4) Regular & Reliable Technology Access #4 Provide each library media center with loaner chromebook devices.		
Action Item	**Timeline**	**Cost**
All LMCs will have loaner chromebooks available in 1:100 device to student ratio.	Dependant on new acquisition schedule and funding	$0
All LMCs will have loaner chromebooks available in 1:50 device to student ratio.	Dependant on new acquisition schedule and funding	$0
All LMCs will have loaner chromebooks available in 1:20 device to student ratio.	Dependant on new acquisition schedule and funding	$0
Monitoring & Evaluation		
Data Collected	**Timeline**	**Expected Outcome**
Inventory	Annual	Progressive

(RRTA5) Regular & Reliable Technology Access #5 Maintain adequate infrastructure, including necessary upgrades as equipment becomes obsolete or deficient.		
Action Item	**Timeline**	**Cost**
Replace phone system (currently end-of-life).	Summer 2020	$60,000-$240,000
Replace Firewall	Summer 2020	$160,000 (4-year total)
Replace Server Stack	January 2020	$50,000
Replace DVR/VMS	Summer 2019	$60,000 - $175,000
Replace Air Conditioner on Server Room	2019-2020	$60,000 - $80,000
Monitoring & Evaluation		
Data Collected	**Timeline**	**Expected Outcome**
Inventory	Annual	Progressive

Unified Experience for Teaching & Learning

Personalized learning environments ***(Software)***
Single sign-on functionality (SSO) ***(Software)***
Integrated database architecture ***(Software)***

In order to ensure that students have a unified experience accessing their data resources, their information must exist across all technology systems. An integrated database architecture achieves that result. Within 24 hours of enrollment, a student's data needs to be populated into the lunch system, library system, Google Apps for Education, and more. This ensures that when a student comes to class on day 1, they can login and participate in any lesson that has been planned. This allows classrooms to keep the focus on teaching and learning while also providing all students with the most inclusive experience possible.

Integrating Systems (IS)

Database architectures can be integrated using three methods: SIF (School Interoperability Framework), API (Application Programming Interface), and CSV Scripting (Comma Separated Value). SIF Integration uses a standards-based architectural design format to allow databases to subscribe to data from other databases. In this way, a student's data can be pulled from one database, be processed into a central database, and then pushed into a recipient database. API integration allows two applications to directly exchange datasets without the use of a central database directing the flow of data. CSV scripting is a very common and simple method of extracting data into CSV files using a database script, and then securely uploading that data to the destination server using another script. The receiving database then imports the CSV file data using a third script. All of these methods are valid and secure ways to transmit student data between databases. The method used is generally chosen based on what each database supports.

Single Sign-on (SSO)

After a student's data has been populated in our systems, we need to provide the student with access to those systems. SSO services are currently being supported through Classlink (6-12) and Clever (K-5). SSO for staff and students is completely automated using Google based authentication. SSO for parents still requires manual setup.

Personalized Learning Environments

The last piece to this puzzle is assisting the user with finding the disparate systems which they have access to. This is best accomplished through the use of a portal. Ideally, the portal is one place a user goes to login (SSO), and is then presented with a list of resources to which they have access to (IS). The end result is that students and staff only need focus on one website and one set of login credentials.

Learning Management System

A learning management system (LMS) is the core component that supports personalized learning environments. Generally, an LMS is a place where students login to see their assignments, turn-in homework, access external resources like videos and research databases, discuss work with other students, and view their grades and attendance. Teachers log into the LMS to post assignments, access their gradebook, take attendance, and communicate with both students and parents. Parents use the LMS to view their child's progress and check in with teachers. With such a critical role, the selection and implementation of an LMS is vital to the success of the development of personalized learning environments.

Assessment

In order to streamline assessment practices, both formative and summative assessments should be integrated into the LMS. By incorporating assessments into the LMS, we can reduce the time it takes for teachers to administer tests and analyze results. We can also minimize the negative impacts of testing on students by providing them with quick access to benchmark exams. Additionally, the systems of assessment implemented should mimic the State test model so that students practice testing in the same format they will be expected to perform in towards the end of the academic year.

System Migrations

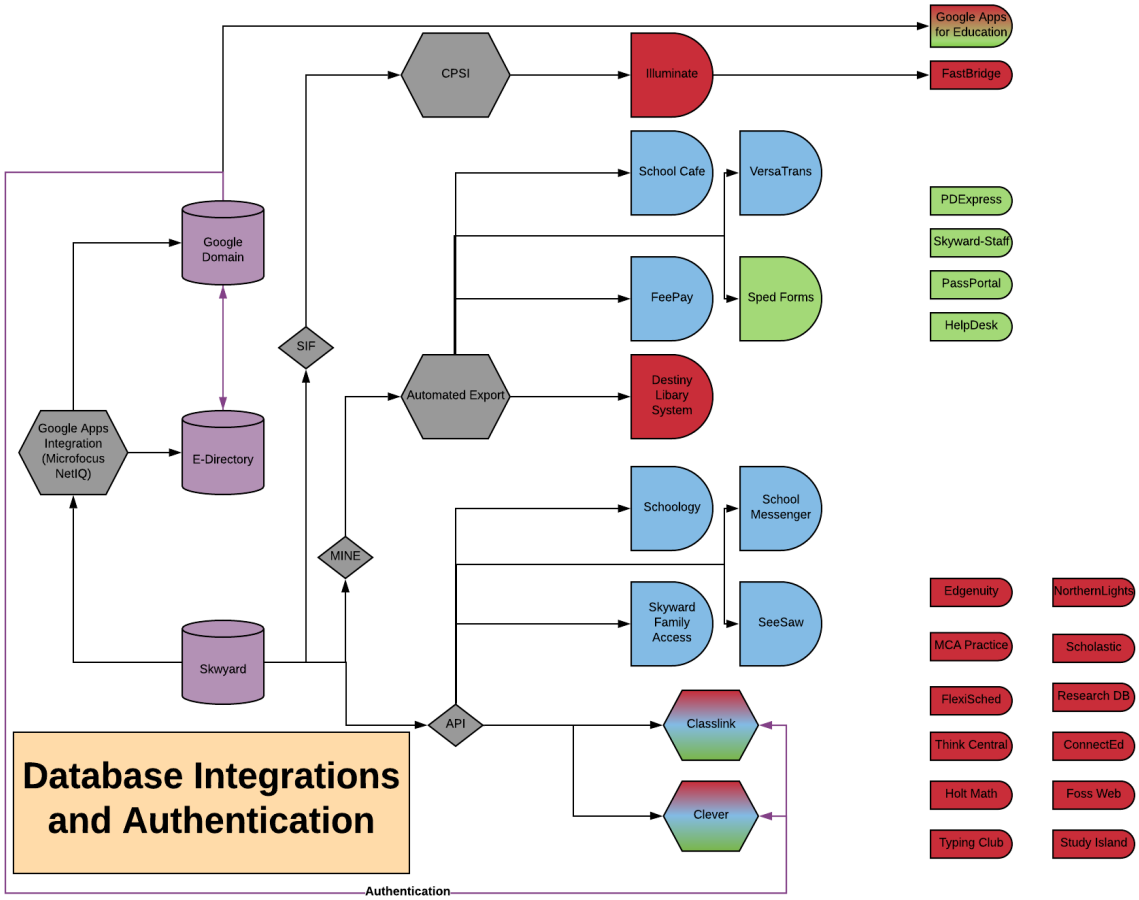
The biggest challenge faced by the district moving forward is the conversion of one system to another. We are looking at changing both our Student Information System (SIS) and User Authentication System (UAS). Both of these systems are tightly integrated in our environment and replacements will have to be equally integrated at the time of implementation in order to preserve the user experience of our staff, students, and parents.

Data Dashboard

As assessment and other data flows into the LMS, the LMS becomes the system of record for a student's academic profile. The selected LMS must be able to provide a comprehensive dashboard for individual and groups of students. This dashboard become the home base for teacher and parent analysis of a child's performance and support needs. An effective dashboard will also assist teachers in identifying areas of growth and intervention for individual standards; a key component of personalized learning. By collecting and presenting this data intelligently, teachers can spend less time planning and more time implementing solutions with students.

Integrated Database Architecture Diagram

Top 30 District Applications



Unified Experience for Teaching & Learning Goals

(UE1) Unified Experience Goal #1 Select and migrate student information database to modernized platform.		
Action Item	**Timeline**	**Cost Estimate**
Post RFP for Student Information System	November 2020	$0
Adopt new SIS Contract	January 2021	$200,000
SIS Migration	November 2021	$40,000
SIS Training	January 2022	$20,000 (In addition to PD Day Costs)
Go live date	January 2022 (2nd Semester)	$0
Reintegration of database infrastructure	June 2022	$10,000
Monitoring & Evaluation		
Data Collected	**Timeline**	**Expected Outcome**
Based on Migration Plan (part of RFP Proposals)		

(UE2) Unified Experience Goal #2 Develop next generation reporting tools for district, school, classroom, and student level data.		
Action Item	**Timeline**	**Cost Estimate**
Identify common reports (grades, attendance, discipline, standardized assessments)	November 2019	$0
Develop reports using existing tools (Illuminate & Skyward)	February 2020	$0
Redevelop Skyward reporting tools	January 2022	$0
Monitoring & Evaluation		
Data Collected	**Timeline**	**Expected Outcome**
Monthly/Quarterly/Annual Reports	Annual	Completion and archival of reports.

Anytime Anywhere Learning

Cloud enabled learning resources ***(Service)***
Automated security and account management ***(Service)***

Anytime Anywhere Learning is about adopting teaching and learning resources that can be universally accessed. To achieve this outcome, the district must establish standards for curriculum and program adoptions that require them to be cloud enabled (accessible via any Internet connections) and to support automated account creation and management. These standards will help ensure that, when a student enrolls, they immediately receive access to the services that will support their education at school and at home.

Learning Management Systems (LMS)

Anytime anywhere learning also requires the presence of a unified learning hub known as a learning management system (LMS). An LMS is a website where teachers, students, and parents all come together to support learning outcomes. Teachers can post homework, discussion questions, or instructional videos. Students can receive and turn-in homework, seek teacher or peer assistance, and stay connected to their classes when they are absent. Parents can see their children's grades and attendance as well as know what tonight's homework is. Together, this information system allows parents, students, and teachers to communicate more effectively in order to support student learning outcomes.

In addition to being a central point of online learning for students, an LMS becomes a jumping off point for students to access other online educational resources. This puts students one click away from accessing district adopted research databases, media archives, instructional support tools, online literature, library systems, and more. By bringing all of these resources back to one online location, students can easily find and access the tools they need to learn. Rather than simply unleashing students on the Internet at large, the district provides a portal from which an array of powerful Internet tools can be accessed.

Online Curriculum Adoptions

When adopting future curriculum programs in the district, it will be important that they are compatible with the vision of anytime anywhere learning. This means that they must have a means for facilitating account synchronization, google apps integration, and provide teachers with the resources they need to post content through the LMS. Additionally, curriculum programs need to be compatible with a wide range of technology platforms so access is not limited.

As technology continues to evolve, our curriculum choices need to remain useful within our changing environment. While supporting the publication of electronically available resources is useful, the district will also seek to adopt online curricula that leverages the power of technology to provide students with dynamic access to information in various forms of media. While a typical textbook is capable of providing factual information, and e-textbook is potentially capable of providing access to a documentary video clip, a research article, and a relevant excerpt from a novel all at the same time. This approach provides students with a higher level of engagement and enables them to process the information in ways more suited to their personal learning style.

Account Automation

Account automation is the process of integrating multiple systems of synchronization to allow staff and students to authenticate and disparate web-based systems using a single user id & password combination. Unfortunately, web-based software solutions often use different means of authentication and provide for different methods of integration. The district must therefore develop systems that provide integration services beyond what is statically available. These systems will utilize the standards listed below to create a complex integration on the back-end so that staff and students can experience a smooth integration on the front-end.

There are many services available to the district that expand the range of compatible software and curriculum solutions. These services can help facilitate the connections required to support anytime anywhere learning.

Standards Supported:

- SIF Integration (School Interoperability Framework) (No longer supporting as of 2018)
- API Integrations (Preferred)
- One Roster
- CSV Automation
- Google Authentication Integration

Other Requirements:

- Nightly Batch
- Live integration (Preferred)
- Support for e-mail ID based usernames
- Common password support
- Automated account creation, suspension, deletion
- HTML5 Enabled
- 1024x768 minimum resolution
- Accessible from Windows, Mac, Chromebook, iPad
- Support for teacher rostering

Anytime Anywhere Learning Goals

(AAL1) Anytime Anywhere Learning Goal #1 All core instruction courses are offered in online, hybrid, or flex learning options (6-12)		
Action Item	**Timeline**	**Cost Estimate**
Establish PD for teachers on the use of Schoology and online communication tools	Ongoing	$0
Media centers are accessible for individuals or for student teams to work	September 2020	$0
84% of teachers use schoology/seesaw for weekly updates	September 2019	$0
90% of teachers use schoology/seesaw for weekly updates	September 2020	$0
96% of teachers use schoology/seesaw for weekly updates	September 2021	$0
Monitoring & Evaluation		
Data Collected	**Timeline**	**Expected Outcome**
Schoology/SeeSaw usage reports	Annual	Progress towards 100% weekly usage.

(AAL2) Anytime Anywhere Learning Goal #2 All parents and students have reliable access to online learning tools through the Parent Portal.		
Action Item	**Timeline**	**Cost Estimate**
Develop Parent Access Guide & Portal	September 2019	$0
Deploy Student SSO Portal	September 2019	$24,000
Provide Parent Training	Annual (Summer/Fall)	$0
Purchase and Implement SeeSaw	August 2019	$18,000
Monitoring & Evaluation		
Data Collected	**Timeline**	**Expected Outcome**
Schoology usage reports	Annual	Progress towards 100% weekly usage.
SeeSaw usage reports	Annual	Progress towards 100% weekly usage.

(AAL3) Anytime Anywhere Learning Goal #3 Snow Days are replaced with E-earning Days.		
Action Item	**Timeline**	**Cost Estimate**
Write E-learning Plan	September 2019	$0
Plan Approved by MDE	September 2019	$0
Provide phone access to/for teachers for E-learning Days	January 2020	Unknown - waiting for details from MDE
Practice E-Learning Day	September 2019 (09/19/19)	$0
Implement E-Learning Days	January 2020	$0
E-Learning Days as a part of the calendar (9-12) adoption	May 2020	$0
Implement E-Learning/Flex days at 9-12 (non weather related)	2020/2021 School Year Calendar	$0
Monitoring & Evaluation		
Data Collected	**Timeline**	**Expected Outcome**
Teacher Surveys	December 2019	Compliance with narrative of issues to be resolved or improved
Schoology & Seesaw usage reports	February 2020	Attendance and schoolwork being posted - able to claim e-learning day as normal school day for ADM purposes.

Instructional Core

Child Internet Protection Act (CIPA)

CIPA requires the public adoption and enforcement of an “Internet Safety Policy”. For minors, the policy must also address monitoring of online activities, the safety and security of all forms of direct electronic communications, unauthorized online access, and unauthorized disclosure of personal identification information. In accordance with CIPA, the district has adopted, and continues to revise its Technology Access and Acceptable Use Policy (SR1.24).

It is the responsibility of the district to provide cyber safety education for all students accessing the Internet. Cyber safety teaches students how to recognize and respond to the dangers presented by accessing the Internet. This curriculum should be delivered in both formal and informal means. The formal should ensure that all students complete a structured curriculum that covers all relevant topics. The informal should ensure that all parties have have access to reliable information related to cyber safety. Common Sense Media provides materials available to schools and families that meet both of these categories.

Content Filtering is a technology that assists the district in protecting students from accessing offensive material. While no filtering technology can provide absolute protection against all obscenity, the district does maintain a CIPA compliant solution that does an effective job. Rather than attempting to determine what Internet-based material is appropriate, the district attempts to block material that is obscene.

`Future Ready Skills Development

Addressing Future Ready Skills Development is an important component to the successful implementation of the technology plan. Through this effort, the district will define the specific technology skills that students are expected to master. Additionally, the district will need to determine when those skills are taught and how they are expressed. The International Society for Technology in Education (ISTE) has been a consistent resource for district engaged in defining and implementing these standards. By understanding the ISTE Standards, the district can align its implementation of how technology is used in the classroom with global expectations of digital citizenship.

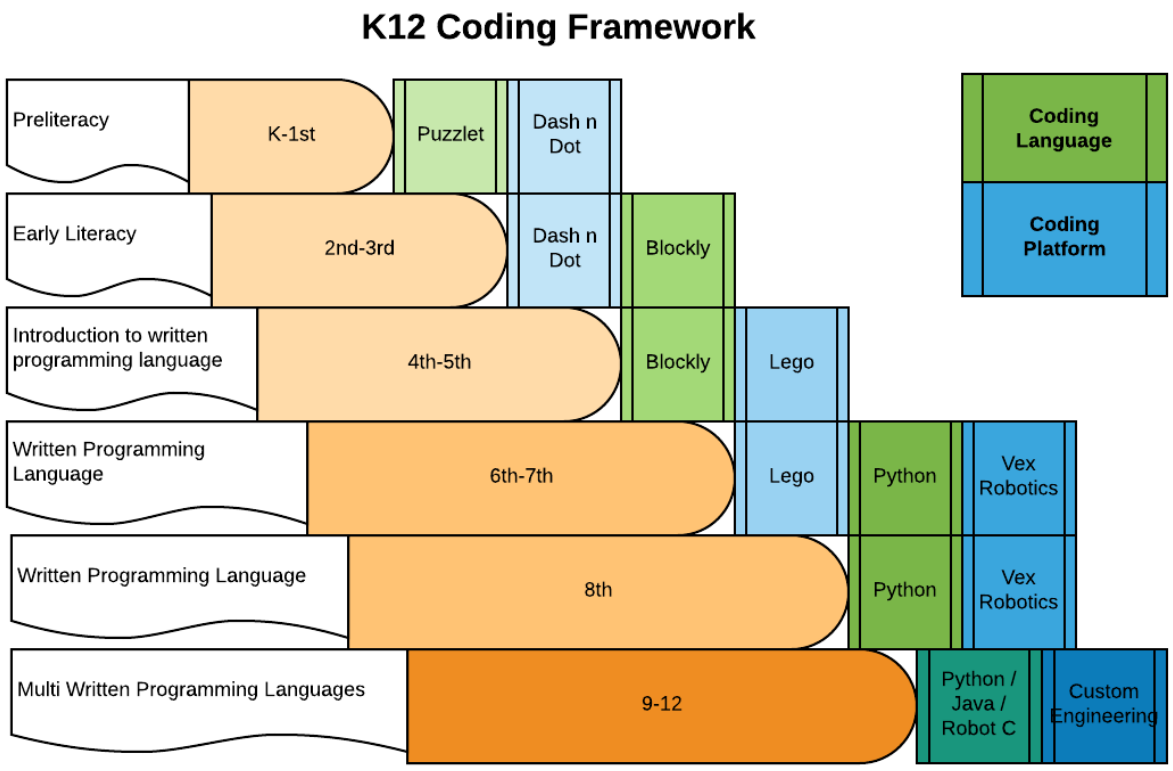
College & Career Readiness

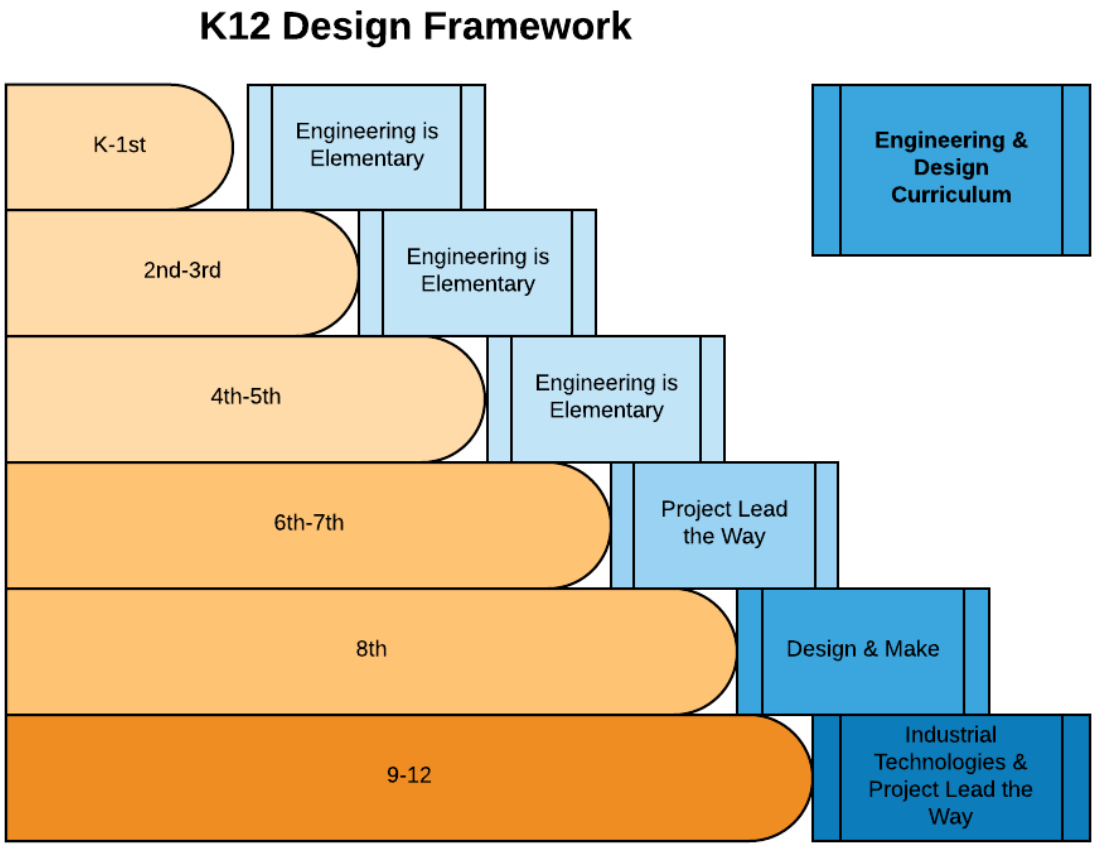
Students need to develop higher level technology skills to be able to compete with others in our global economy. To that end, the district cannot limit itself to simply teach students the basics of typing and information literacy (21st century skills). The district must also provide students with the advanced skills they need to gain a competitive edge. To gain these skills, students will need to study subject areas such as programming, media design, and engineering.

Data Literacy

While we educate students in regards to information literacy, we also need to educate staff and students on data literacy. Data literacy is the knowledge of what personal data is, how it can be used, and who it can (and can't) be shared with. The Family Education Rights and Privacy Act (FERPA) governs how student data must be handled. It is important that as a part of this plan, we review our policies, procedures, and professional development strategies to ensure that staff and students are aware of FERPA and what it means for them.

Curriculum Articulation





The above mapping articulates a progression of programming and engineering design skills that all students would be exposed to. Additionally, by creating after school clubs and teams, students would be given the opportunity to further develop their passion in these fields. This mapping is meant to guide the work of creating this K-12 articulation over the next 3-year, and is therefore subject to revision.

Instructional Core

(IC1) Instructional Core Goal #1 Maintain appropriate CIPA compliant policies for Technology Access and Acceptable Use.		
Action Item	**Timeline**	**Cost Estimate**
Review and Update Policy SB1.24	April 2019	0
Review and Update Policy SB1.24	April 2020	0
Review and Update Policy SB1.24	April 2021	0
Review and Update Policy SB1.24	April 2022	0
Monitoring & Evaluation		
Data Collected	**Timeline**	**Expected Outcome**
Board Agenda Minutes	Annually	Board Approval

(IC2) Instructional Core Goal #2 Develop Coding and Design learning framework 2.0 (K12), aligned with 9-12 pathway offerings.		
Action Item	**Timeline**	**Cost Estimate**
Evaluate programming, design, and robotics curriculum for 3rd-5th grade	September 2020	$0
Codify coaching model (similar to athletics) for robotics teams at 6th-12th grades.	September 2022	$12,000
Adopt 3-5 curriculum for programming, design, and robotics.	September 2022	$60,000

Monitoring & Evaluation		
Data Collected	**Timeline**	**Expected Outcome**
Teacher Survey	Annual	Dash and Dot are reported by teachers as a useful enhancement to existing instruction.
Middle School Schedule	Annual	Including of Robotics, Design, and Project-based Programming courses.

(IC3) Instructional Core Goal #3 Develop CIPA Compliant curriculum for cyber safety that uses free online resources. Move from Learning Branch to Common Sense Media		
Action Item	**Timeline**	**Cost Estimate**
Elementary to use Common Sense Media	October 2019	$0
Middle School to use Common Sense Media	November 2019	$0
High School to continue with Learning Branch	Ongoing	%0
Monitoring & Evaluation		
Data Collected	**Timeline**	**Expected Outcome**
Teacher certification of completion	December, Annually	Compliant

(IC4) Instructional Core Goal #4 Develop cyber safety training for staff (w/ policy alignment for social media usage)		
Action Item	**Timeline**	**Cost Estimate**
Develop/Adopt Admin Training	September 2020	$2000
Develop/Adopt Teacher Training	September 2021	$2000
Train all Admin	September 2021	$0
Train all Teachers	September 2022	$0
Monitoring & Evaluation		
Data Collected	**Timeline**	**Expected Outcome**
Test Completion Audit	Annual	100% Completion

Appendix: Resources & References

Federal Department of Education National Education Technology Plan
http://tech.ed.gov/netp/

Federal Department of Education Connect Ed Initiative
http://tech.ed.gov/connected/

Federal Department of Education Future Ready Initiative
http://tech.ed.gov/futureready/

Future Ready Library Media Center Initiative
https://futureready.org/improving-teaching-learning-communities-practice/

Federal Communications Commision Child Internet Protection Act (CIPA)
https://www.fcc.gov/consumers/guides/childrens-internet-protection-act

Federal Family Educational Rights and Privacy Act (FERPA)
http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html

Stillwater Area Public Schools Future Ready
https://drive.google.com/file/d/0B_r6-at2XCTNV3Q1Mm9GOHpHZVE/view?usp=sharing

Stillwater Area Public Schools Bridge to Excellence
https://stillwaterschools.org/district/school-board/levy-2013-investing-excellence/bridge-excellence

Stillwater Area Public Schools Technology Access & Acceptable Use
https://stillwaterschools.org/sites/default/files/public/downloads/pages/524%20Technology%20and%20Internet%20Access%20and%20Acceptable%20Use%20Policy%20FINAL%20to%20POST.pdf

Cyber Safety Resources - Common Sense Media
https://www.commonsensemedia.org/privacy-and-internet-safety/age/tweens

Cyber Safety Curriculum - Lersun Development
http://www.lersun.com/index.html

ISTE Standards
http://www.iste.org/standards

Appendix: Budget 2019-2020

The budget is provided in this document as an example of what technology based spending in the District looks like. In any given year, actual expenses will meet actual needs (opposed to budgeted needs); this generally means that funds will shift within the Area of Expense. Not included in this budget are adequate annual replacement of staff computers, student devices, and teaching displays due to lack of funding. Additionally, the District is limited on funds available for number of infrastructure, security, and curriculum related projects.

Technology Area Budget		**$1,300,770.00**
Budget Item	**Cost Estimate**	**Area of Expense**
Internet Services & Transport	$51,100.00	Communications
Wide Area Network Fiber - Zayo	$170,000.00	Communications
PRI Phone Lines - Centurylink	$65,000.00	Communications
Cell Phones - T-Mobile	$43,000.00	Communications
DSL Services - Frontier	$2,500.00	Communications
1MB Services - AT&T	$2,500.00	Communications
Phone System Replacement	$60,000.00	Equipment & Service
Firewall Replacement w/ 4 Year	$160,000.00	Equipment & Service
Radios for Communication	$2,500.00	Equipment & Service
Robotics Repairs/Replacements	$4,000.00	Equipment & Service
Device Repair	$10,000.00	Equipment & Service
Server Repair	$10,000.00	Equipment & Service
Network Install & Repair	$36,000.00	Equipment & Service
Projector Install & Repair	$50,000.00	Equipment & Service
Technology Supplies - Items under $500	$25,000.00	Equipment & Service
Annual Replacements - iPads	$50,000.00	Equipment & Service
Annual Replacements - Chromebooks	$0.00	Equipment & Service
Annual Replacements - Staff Computers	$45,000.00	Equipment & Service
Computer Management - JAMF	$26,000.00	License/Support/Subscription
iPad Apps - Apple VPP	$3,000.00	License/Support/Subscription
Cyber Safety - Lersun	$5,000.00	License/Support/Subscription
Coding Subscription - Repl.it	$1,000.00	License/Support/Subscription

Skyward SIS/Finance System License	$136,000.00	License/Support/Subscription
Skyward ISCorp Server Hosting	$34,000.00	License/Support/Subscription
Skyward Additional Support	$6,000.00	License/Support/Subscription
Matrix - Phone Hardware Support	$33,000.00	License/Support/Subscription
Matrix - Phones Software Licensing	$8,000.00	License/Support/Subscription
Matrix - Wireless Network Licensing	$25,000.00	License/Support/Subscription
Copy/Printing Software - Uniflow	$6,000.00	License/Support/Subscription
Database Aggregator - CPSI	$6,000.00	License/Support/Subscription
SSO Integration - Classlink	$20,000.00	License/Support/Subscription
SSO Integration - Clever (Free)	$0.00	License/Support/Subscription
Edmentum - Clever Integration	$1,000.00	License/Support/Subscription
School Messenger	$12,000.00	License/Support/Subscription
HelpDesk License	$2,600.00	License/Support/Subscription
GIS Software - Guide K12	$16,000.00	License/Support/Subscription
Raptor (Building Security)	$8,000.00	License/Support/Subscription
E-rate Support	$8,000.00	License/Support/Subscription
Curriculum Warehouse EduPlanet21	$25,500.00	License/Support/Subscription
Google Licensing - BYOD	$1,200.00	License/Support/Subscription
Google Licensing - District	$5,800.00	License/Support/Subscription
Web Hosting Domain Registration	$200.00	License/Support/Subscription
Web Hosting Site - Ten7	$15,000.00	License/Support/Subscription
Web Hosting IP Addressing - IP House	$1,680.00	License/Support/Subscription
Server Backups	$14,000.00	License/Support/Subscription
Directory Services Licensing - Novell	$35,000.00	License/Support/Subscription
eDirectory Migration	$16,000.00	License/Support/Subscription
Cloud Backup and Security	$34,000.00	License/Support/Subscription
Mileage - Reimbursements	$14,000.00	Mileage/Cell Reimbursements
Cell Phones - Reimbursements	$2,000.00	Mileage/Cell Reimbursements
Total	***$1,307,580.00***	
		continued:

Curriculum & Assessment Area Budget Items		(Partial List)
Budget Item	**Cost Estimate**	**Area of Expense**
*Schoology	$33,000.00	Curriculum
*Library - Destiny	$12,000.00	Curriculum
*Science - Gizmo	$20,000.00	Curriculum
*VocabSpellingCity	$6,000.00	Curriculum
*Learn360	$5,500.00	Curriculum
*Typing Club	4,000.00	Curriculum
*Edgenuity	30,000.00	Curriculum
*Edmentum- Study Island	26,000.00	Curriculum
*Illuminate Education	50,000.00	Assessment
*FASTBridge	34,000.00	Assessment
*** Information Only: These curricular items overlap with the Technology Area but are not funding through the learning technology budget.**		

Appendix: Library Media Curriculum Reference

Kindergarten ISD#834 Media Curriculum Overview, 2017

+Digital Citizenship: Understand and practice appropriate and safe uses of technology

+Information Literacy: Engages in the information literacy process: access, evaluate and communicate information and ideas. Uses a variety of skills and strategies to comprehend nonfiction and informational text.

+Reading Skills and appreciation: Demonstrates an understanding of written language and the relationship of letters and words to the sounds of speech. Listens to and/or reads for a variety of purposes and across genres. Students in our district also have the opportunity for checking out materials to take home to explore further on a 6 day rotation cycle.

	DETAILS/STANDARD	LESSON EXAMPLE(S)
Library procedures	-Purpose of library / media specialist -Where things are -How to check out (browsing for books, visiting the desk/return materials (responsibility) -Using a shelf marker/ Understand books have special place in library (library organization) **AASL 1.1.4, ITEM 3.I.B**	-I Took My Frog to the Library -Shelf Elf Hunt/ Library Tour -Shelf Marker Hokey Pokey
Responsive classroom	-Expectations -Communicate ideas with others in a respectful manner. -Participate in a large group discussion. -Understanding that different people will like different books (and different abilities). -Work in a group or pairs effectively **District Initiative, ITEM 2.II.B., Common Core 1.8.1.1, AASL 2.1.5, AASL 1.1.9, AASL 2.1.5, AASL 3.1.2 ELA 1.8.1.1, ELA 0.8.6.6 , ELA 1.8.1.1**	-Hopes and Dreams -Media Rules-making

Book Care	-Recognizes library materials are for shared use **ITEM 3.I.B**	-Mr. Wiggles Book Care -Skippy Jon Jules Rules of Book care
Parts of a Book	-Identify front/back cover, title,illustration, spine, title page, and call number -Naming and defining role of author and illustrator **ELA 0.2.5.5, ELA 0.1.6.6, ELA 0.1.7.7, Common Core 0.2.5.5, Common Core 0.2..6.6, AASL 1.1.5**	-Parts of a Book Lesson -Author/Illustrator Studies
Choosing good fit books	-Appropriate selection of text for personal enjoyment and academic texts **Common Core 0.1.10.10, ITEM 2.I.A**	-Three Ways to “Read a Book” -5 Finger Rule
Retelling/Story Elements	-With prompting and support, retell familiar stories (including key details) -With prompting and support identify characters, settings, and major events in story -Parts of a story: Beginning, Middle, and End -Problem and Solution Write/draw about a topic or opinion **Common Core 0.1.2.2, 0.1.3.3, AASL 1.1.7 AASL 3.1.6 ELA 0.6.1.1 ELA 0.6.8.8, ITEM 2.I.A**	-Parts of a Story Cloudy with a Chance of Meatballs (graphic organizer inc.) -Story Kits including Sam’s Sandwich (retelling), Clip Clop (parts of a story), Armadilly Chilli (problem/solution)
Literature appreciation	-Selects, reads (or listens) to a variety of high quality literature. -Recognize books in a series -Author/illustrator studies **ELA 0.2.10.10/0.1.10.10, ITEM 2.1.A, AASL 3.1.2**	-Author/Illustration studies: David Shannon, Jan Brett, Mo Willems, etc -Story Kits -I Can Read Books

Digital Citizenship	-Understands technology tools belong to the school community and should be used respectfully and responsibly. -States reasons why not to use first and last names when online. Understand internet use should involve adult supervision and only to visit sites selected by teacher/parents. **ISTE 2, ITEM 4.1.,II.A, AASL 3.1.16**	-Cyber Sammy- Internet Safety Unit -Introducing tech tools in library as needed (ex: computers or iPads)
Literature Appreciation: Awards focus	Students recognize award winning books and criteria -Caldecott -Star of the North (and voting process) **ITEM 2.1.D, AASL 3.1.2**	-Caldecott Study -Star of the North mini unit
Multicultural/International Tales	Students recognize other cultures from stories/multicultural and international -Recognize other cultures and their unique perspectives **ITEM 2.1.D, Common Core 0.1.9.9**	-Folk tale study -Multicultural fairy tales
Role of Pictures in Texts	-Appreciate various illustration styles and how they enhance the material -With prompting and support, describe the relationship between the picture and text **Common Core 0.1.7.7, AASL 1.1.5**	-Caldecott Study -Jeremy Draws a Monster/stickman.com
Compare and contrast stories	-Compare and contrast stories from different authors, folk tales from various cultures (ex: Cinderella) **Common Core 0.1.9.9, ITEM 2.1.D**	-**Armadilly Chilli** Story Kit/Little Red Hen
Fact vs Opinion Fiction vs. Nonfiction	**ITEM 2.II.B, AASL 1.1.4**	Alligators: Fiction vs. Nonfiction, Robots: Fiction vs Nonfiction
Organizing Information	-Manage information with graphic organizers -Demonstrate simple organizational skills such as sorting and categorizing. **AASL 1.1.6, AASL 2.1.2, AASL 2.1.3 AASL 2.1.5, AASL 2.1.6, AASL 3.1.4,**	-Polar Animal Study

	ITEM 1.II./III	
Research Exploration	**-**Identify topics and facts in nonfiction materials. -Identify and describe different places to access information **ITEM 2.1.A., ITEM 1.II.B. AASL 1.1.6 AASL 2.1.1 ITEM 1.II.B, AASL 1.1.8,AASL 1.1.1 AASL 3.1.1**	-Polar Animal Study
Response to reading	-Demonstrate comprehension by sharing their learning. -Demonstrate a reaction to a story by drawing a picture or writing a response -Confirm understanding of a text read aloud or information presented orally by asking and answer questions about key details and requesting clarification if something is not understood. **AASL 1.1.9, AASL 2.1.5, AASL 3.1.5, AASL 2.1.4 , AASL 2.1.6, AASL 3.1.3 AASL 3.1.4, ELA 0.6.1.1**	-Story and response graphic organizer
Participate in read aloud, storytelling, and silent reading experiences.	**AASL 1.1.9 AASL 2.1.5 AASL 3.1.2 ITEM 2.II.A**	-Story kits -Brain Fuzzies (for prompting questions after read aloud)
Making Connections	-Compare and contrast their own personal experiences with the book character(s) -Connect ideas to own interests -text to self, text to world, text to text **AASL 3.1.3 AASL 3.1.5 AASL 1.1.2**	-Read alouds throughout year -Making Connections lesson
KWL	-Share what is known about a topic -Generate questions based on interests, observations, information or stories **AASL 1.1.2 AASL 1.1.9 AASL 2.1.5 AASL 1.1.1 AASL 3.1.1, ITEM 2.1.A**	-Nonfiction read aloud stories and KWL charts
Group multimedia research project	-Participate in shared research and writing projects (explore books by a	-Polar Animal Study

	favorite author and express opinions about them) **-**Create an individual or shared multimedia work for a specific purpose. **ELA 0.6.7.7, ELA 0.8.8.8, ISTE 4**	

First Grade ISD#834 Media Curriculum Overview, 2017

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+Information Literacy: Engages in the information literacy process: access, evaluate and communicate information and ideas. Uses a variety of skills and strategies to comprehend nonfiction and informational text.

+Reading Skills and appreciation: Demonstrates an understanding of written language and the relationship of letters and words to the sounds of speech.
Listens to and/or reads for a variety of purposes and across genres. Students in our district also have the opportunity for checking out materials to take home to explore further on a 6 day rotation cycle.

	DETAILS/STANDARD	**LESSON EXAMPLE(S)**
Library organization and procedures	-Purpose of library / media specialist -Where things are -Understand books have a special place in library (library organization) -How to check out (using a shelf marker to browse, visiting the desk)/return materials (responsibility) **AASL 1.1.4, ITEM 3.I.B**	-Library Orientation -Interactive Modeling
Responsive classroom	-Expectations -Communicate ideas with others in a respectful manner. -Participate in a large group discussion. -Understanding that different people will like different books (and different abilities). -Work in a group or pairs effectively **District Initiative, ITEM 2.II.B., Common Core 1.8.1.1, AASL 2.1.5, AASL 1.1.9, AASL 2.1.5, AASL 3.1.2 ELA 1.8.1.1, ELA 0.8.6.6 , ELA 1.8.1.1**	-Hopes and Dreams -Media Rules-making -Interactive Modeling

Book Care	-Recognizes library materials are for shared use **ITEM 3.I.B**	-Mr. Wiggles Book Care -Don't let the Pigeon Touch the Books!
Parts of a Book/Text Features	-Identify front/back cover, title,illustration, spine, title page, publisher, and call number -Naming and defining role of author and illustrator -Use table of contents, glossary, index **ELA 0.2.5.5, ELA 0.1.6.6, ELA 0.1.7.7, Common Core 0.2.5.5, Common Core 0.2..6.6, AASL 1.1.5**	-Parts of a Book Fic/Non-Fic exploration
Main Idea/Supporting Details	-Find the common main idea in a text -Verbally, write, or draw the main idea and supporting details -Draw a conclusion from main idea. -Ask and answer questions about key details. **AASL 1.1.6, AASL 1.1.7** **ITEM 1.I.A AASL 1.1.6 AASL 2.1.3 ELA 1.2.2.2 ELA 1.2.7.7 AASL 1.1.7 ELA 1.1.2.2 ELA 1.6.8.8 ELA 1.8.7.7 ELA 1.1.1.1 ELA 1.2.1.1 ELA 1.8.2.2, ITEM 1.III.A.**	-Read aloud/graphic organizer for Finding the Main Idea lesson

Organizing Information	-Identify categories and themes across a variety of resources -Manage information with graphic organizers -Demonstrate simple organizational skills such as sorting and categorizing. **AASL 2.1.1, AASL 2.1.2, AASL 1.1.6 , AASL 2.1.3, AASL 2.1.4 , AASL 3.1.4, ISTE 3, ITEM 2.IV.C., ITEM 1.II./III**	-Non-fiction insect study
Demonstrate a reaction to a story by drawing a picture or writing a response	**AASL 2.1.4 AASL 3.1.4**	-Story and response graphic organizer
Multimedia Groupwork	-Interacts, collaborates and publishes with peers, experts or others using a variety of digital environments and Media. **AASL 1.1.9 AASL 2.1.5 AASL 2.1.6 AASL 3.1.2 AASL 3.1.4, ITEM 2.III**	-Non-fiction insect study report
Literature appreciation	-Selects, reads (or listens) to a variety of high quality literature. -Recognize books in a series -Author/illustrator studies **ELA 0.2.10.10, 0.1.10.10 ITEM 2.1.A, AASL 3.1.2**	-Author and illustrator studies -Henry and Mudge series introduction
Choosing good fit books	-Appropriate selection of text for personal enjoyment and academic texts -Be able to find and read right fit books. **ELA 1.1.10.10, Common Core 0.1.10.10, ITEM 2.I.A**	-What is a good fit book/five finger rule lesson
Voice / inflection	Produce complete sentences and read stories, poems, rhymes and songs with expression. **ELA 1.8.6.6**	-Moo/David LaRochelle lesson

Retelling/Story Elements	-With prompting and support, retell familiar stories (including key details) -With prompting and support identify characters, settings, and major events in story -Parts of a story: Beginning, Middle, and End -Problem and Solution Write/draw about a topic or opinion -Describe characters, settings and major events in a story, using key details. **Common Core 0.1.2.2, 0.1.3.3, AASL 1.1.7, AASL 3.1.6, ELA 0.6.1.1, ELA 0.6.8.8, AASL 2.1.6 , ELA 1.1.3.3, ELA 1.1.2.2, ELA 1.6.8.8, ELA 1.8.7.7, ELA 1.1.3.3, ITEM 2.I.C**	-Retelling with Story Kits -Parts of a Story with A Bad Case of the Stripes (David Shannon)/graphic organizer -Problem and Solution story with Harry the Dirty Dog
Literature appreciation: Awards Focus	-Students recognize award winning books and criteria -Caldecott -Star of the North **ITEM 2.1.D, AASL 3.1.2**	-Caldecott Exploration Lesson -Star of the North mini unit/voting process
Digital Citizenship	-Understands resources and materials belong to the school community and should be used respectfully and responsibly. -Intro to computer unit/IUP (Internet Use Policy) -States reasons why not to use first and last names when online. (Addresses/birthdays/phone numbers also) **ISTE 2, AASL 3.1.6, ITEM 4.I.B/D/E, ITEM 4.II.A**	-Internet Safety Unit with CyberSammy
Multicultural/International Tales	Students recognize other cultures from stories/multicultural and international -Recognize other cultures and their	-Multicultural read alouds -Emmanuel's Dream read aloud

	unique perspectives **ITEM 2.1.D, Common Core 0.1.9.9**	
Role of Pictures in Texts	-Appreciate various illustration styles and how they enhance the material -With prompting and support, describe the relationship between the picture and text -Identify elements of pictures that enhance the story -Distinguish between pictures and illustrations and words **ELA 1.2.6.6, Common Core 0.1.7.7, ELA 1.2.7.7, ELA 1.2.7.7, AASL 1.1.5**	-Jeremy Draws a Monster/stickman.com -Caldecott exploration
Compare and contrast texts	-Compare and contrast stories from different authors, folk tales from various cultures (ex: Cinderella) -Compare and contrast information in a non-fiction book with another **ELA1.2.9.9, Common Core 0.1.9.9, ELA 1.1.9.9, ELA 1.2.9.9, ITEM 2.1.D**	-Gingerbread stories (compare/contrast) -Insect research study (non-fic comparison) -Folk Tale study
Analyze non-print and print media to determine its purpose and pov	**-**Identify who is telling a story at various parts in a text. **ELA 1.1.6.6** **AASL 1.1.8 ELA 1.2.8.8**	-Nonfiction animal book exploration
Fact and opinion Fiction vs. Nonfiction	**AASL 1.1.4 ELA 1.6.1.1, ITEM2.II.B, ELA 1.1.5.5**	-Nonfiction text exploration -Fic vs Non Fic: subject studies
Research Exploration	**-**Identify topics and facts in nonfiction materials. -Identify and describe different places to access information **ITEM 2.1.A., ITEM 1.II.B. AASL 1.1.6 AASL 2.1.1 ITEM 1.II.B, AASL 1.1.8,AASL 1.1.1 AASL 3.1.1**	-Insect Lesson
Copyright	-Understand copyright: why it is wrong to copy someone's work	-Copyright Lesson

	-Book's "birthday" year **AASL 3.1.6,ITEM 4.1.C**	
Response to reading	-Share what they learned -Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly and add drawings or visual displays to clarify ideas, thoughts, and feelings. **ELA 1.8.4.4 , ELA 1.8.5.5, AASL 1.1.9, AASL 2.1.5, AASL 3.1.5,**	-Read aloud/graphic organizer -Brain fuzzies (response questions to read aloud)
Participate in read aloud, storytelling, and silent reading experiences.	-Use context clues to confirm or self correct word recognition and understanding. **AASL 1.1.9 AASL 2.1.5 AASL 3.1.2 ELA 1.8.1.1 ELA 1.3.1.4, ITEM 2.II.A**	-Brain fuzzies (response questions to read aloud) -Interactive read aloud
Making Connections	-Compare and contrast their own personal experiences with the book character(s) -Connect ideas to own interests -text to self, text to world, text to text **AASL 3.1.3, AASL 3.1.5, AASL 1.1.2, ITEM 2.IV.A/C**	-Brain fuzzies (response questions to read aloud) -Interactive read aloud -Making Connections lesson
KWL	-Share what is known about a topic **AASL 1.1.2 AASL 1.1.9 AASL 2.1.5**	-Read alouds/KWL charts
Poetry and Prose	-Read Prose and poetry for enjoyment (teacher-led, class, or partners) **ELA 1.1.10.10**	-Poetry unit (April)
Research/Writing Group Work Project	-Participate in a shared research and writing project (explore a number of how to books and use them to write a sequence of instructions). **ELA 1.6.7.7, ITEM 1.II,III, IV.B/C,V**	-Insect Nonfiction Study

Second Grade ISD#834 Media Curriculum Overview, 2017

+Digital Citizenship: Understand and practice appropriate and safe uses of technology

+Information Literacy: Engages in the information literacy process: access, evaluate and communicate information and ideas. Uses a variety of skills and strategies to comprehend nonfiction and informational text.

+Reading Skills and appreciation: Listens to and/or reads for a variety of purposes and across genres. Students in our district also have the opportunity for checking out materials to take home to explore further on a 6 day rotation cycle.

	DETAILS/STANDARD	**LESSON EXAMPLE(S)**
Library organization and procedures	-Purpose of library / media specialist -Where things are -Understand books have a special place in library (library organization) -How to check out (using a shelf marker to browse, visiting the desk)/return materials (responsibility) **AASL 1.1.4, ITEM 3.I.B**	-Media Orientation -Interactive Modeling -Animals Should Not Check out books...book care lesson
Responsive classroom	-Expectations -Communicate ideas with others in a respectful manner. -Participate in a large group discussion. -Understanding that different people will like different books (and different abilities). -Work in a group or pairs effectively - engage effectively in a range of collaborative discussions with diverse partners, building on others' ideas and expressing their own clearly. -Follow agreed-upon rules for discussions. - Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. -explain their own ideas in understandings in discussions. -Cooperate and compromise as	-Hopes and Dreams -Media Rules-making -Interactive Modeling

	appropriate for productive group discussion. **District Initiative, ITEM 2.II.B., Common Core 1.8.1.1, AASL 2.1.5, AASL 1.1.9, AASL 2.1.5, AASL 3.1.2 ELA 1.8.1.1, ELA 0.8.6.6 , ELA 1.8.1.1 ELA 3.8.1.1 ELA 3.8.1.1**	
Library Catalog/Finding Books	**-**Use call numbers to find specific books -Perform a book/subject search on Destiny -Fiction: ABC Order -Non-fiction: Dewey Decimal System -Recognize the purpose of the library online catalog (Destiny) and applies search strategies in finding desired resources. **AASL 1.1.4, ITEM 1.II.A, ITEM 2.I.B.**	-Call Number Search Hunts (E, I CR, Non-fiction) -Dewey Decimal System Lesson -Destiny Catalog system introduction
Copyright	-Understand copyright: why it is wrong to copy someone's work -Give credit to the original creator if use others work in research/ideas -Book's "birthday" year **AASL 3.1.6AASL 3.1.6, ITEM 4.I.C.**	-Copyright Lesson
Navigate to a preselected website or online resource	-access age-appropriate opportunities online for open-ended exploration -share what they discovered and learned -Conduct a simple keyword search **AASL 1.1.8, ITEM 1.III.D, ITEM 3.II.B, AASL 1.1.2, ITEM 3.II.A, ISTE 3**	-Destiny, Britannica Learning Zone, Seussland, Yahooligans, etc
Book Care	-Recognizes library materials are for shared use **ITEM 4.I. A**	
Response to reading	-Demonstrate a reaction to a story by drawing a picture or writing a response Share what they learned -Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly and add drawings or visual displays to clarify ideas, thoughts, and feelings.	-Read aloud/response graphic organizers

	-Engage in classroom discussion of questions answered, discrepancies found, and questions remaining. **AASL 1.1.9AASL 3.1.2 AASI 3.1.1 ELA 2.8.4.4 ELA 2.8.5.5AASL 1.1.9 AASL 2.1.5 AASL 3.1.5 AASL 2.1.4 ELA 2.6.1.1**	
Parts of a Book/Text Features	-Identify front/back cover, title,illustration, spine, title page, publisher, and call number -Naming and defining role of author and illustrator -Use table of contents, glossary, index,captions, diagram, maps **ELA 0.2.5.5, ELA 0.1.6.6, ELA 0.1.7.7, Common Core 0.2.5.5, Common Core 0.2.6.6, AASL 1.1.5**	-Parts of a Book Non-fiction/Fic Presentation Game -Text Features Hunt Lesson
Literature appreciation	-Selects, reads (or listens) to a variety of high quality literature. -Recognize books in a series -Author/illustrator studies **ELA 0.2.10.10, 0.1.10.10, ITEM 2.1.A, AASL 3.1.2**	-Author and Illustrator Studies -Series introduction (ex: My Weird School series)
Choosing good fit books	-Appropriate selection of text for personal enjoyment and academic texts -Be able to find and read right fit books. **ELA 2.2.10.10, ITEM 2.I.A, Common Core 0.1.10.10**	-Good fit books lesson/5 Finger Rule
Retelling/Story Elements	-Retelling with speaking, drawing and writing to writing, speaking, or viewing -With prompting and support identify characters, settings, and major events in story -Parts of a story: Beginning, Middle, and End -Problem and Solution -Write/draw about a topic or opinion -Describe characters, settings and major events in a story, using key details. -Summarize a story **Common Core 0.1.2.2, 0.1.3.3, AASL**	-Retelling after read aloud -Story Elements introduction lesson -Parts of a Story Response to Read aloud

	1.1.7 AASL 3.1.6 ELA 0.6.1.1 ELA 0.6.8.8 AASL 2.1.6 ELA 2.1.5.5AASL 1.1.7 AASL 3.1.6 ELA 2.1.1.2 ELA 0.6.3.3 ELA 2.8.2.2, ITEM 2.I.C	
Digital Citizenship	-Understands resources and materials belong to the school community and should be used respectfully and responsibly. Intro to computer unit/IUP (Internet Use Policy) -States reasons why not to use first and last names when online. Addresses/birthdays/phone numbers also Internet Safety Unit -Interacts, collaborates and publishes with peers, experts or others using a variety of digital environments and media. -Communicates ideas in a respectful manner -Respects the thinking and creative works of others Safety issues related to Internet use -Understands that private and personal information should not be given without permission of parent or teacher. - Understands the difference between appropriate and inappropriate websites/email. -Cyberbullying **ISTE 2, AASL 3.1.6 , ELA 2.8.5.5, ITEM 3.A., ITEM 4.III.A, ITEM 4.III.A/D/E**	-Introduction to Technology Tools and safe use -Digital Safety -Cyber Sammy
Literature appreciation: Awards Focus	Students recognize award winning books and criteria -Caldecott -Star of the North **ITEM 2.I. D, AASL 3.1.2**	-Caldecott Exploration -Star of the North and voting process
Multicultural/International Tales	-Students recognize other cultures from stories/multicultural and international -Recognize other cultures and their unique perspectives **Common Core 0.1.9.9, ELA 2.1.1.2, ITEM 2.I.D**	-Multicultural story exploration
Compare and contrast		-Folk Tale exploration

texts	-Compare and contrast stories from different authors, folk tales from various cultures (ex: Cinderella) -Compare and contrast information in a non-fiction book with another **ELA 2.2.9.9 ELA 2.1.1.2 , ITEM 2.I.D**	-Comparing and contrasting during Bat Research
Role of pictures in texts	-Appreciate various illustration styles and how they enhance the material -With prompting and support, describe the relationship between the picture and text -Identify elements of pictures that enhance the story -Distinguish between pictures and illustrations and words **ELA 2.2.6.6, ELA 2.2.7.7 ELA 2.2.7.7, AASL 1.1.5**	-Caldecott Exploration -David Wiesner illustrator study (ex:Tuesday- almost wordless picture book)
Analyze non-print and print media to determine its purpose and pov	-Identify who is telling a story at various parts in a text. -Acknowledge differences in points of view of characters. **ELA 2.1.6.6, AASL 1.1.8, ELA 2.2.6.6**	-Bat Research Project
Fact and opinion Fiction vs. Nonfiction	**AASL 1.1.4 ELA 2.6.1.1, ITEM II: B, ELA 2.1.5.5**	-Fiction/Nonfiction exploration during Destiny Unit --Non fiction vs Fiction Animal Cards Lesson -Fact and Opinion Lesson
Generate questions based on interests, observations, information or stories	**AASL 1.1.1, AASL 1.1.3, ITEM 2.I.A**	-Bat research project
Identify and describe different places to access information	**AASL 1.1.4 AASL 1.1.8, ITEM 1.II.B**	-Bat research project
Explores literary genres such as mystery, poetry, folklore	-Describe how words and phrases (alliterations, rhymes, repeated lines) supply rhythm and meaning in a story, poem or song. **ITEM 2.I.D., LA 2.1.10.10**	-Genre studies -Poetry Exploration during April (National Poetry Month) poet study of Shel Silverstein

Beginning Keyboarding	-Identify hardware components: trackpad, screen, keypad -Introduce Keyboarding: begin to use special keys (spacebar, arrow, enter, numbers) and to use proper placement of fingers on home row keys -display proper ergonomics while using the computer -use trackpad to pull down menus, click, double click, and click drag **ITEM 4.IV.B., ITEM 3.I.B., ISTE 1.d**	-Intro to Keyboarding Unit -Typing Club
Copyright	-Understand copyright: why it is wrong to copy someone's work -Book's "birthday" year -Tell or recount an experience with appropriate facts, details, and avoidance of plagiarism. **ELA 2.8.4.4, ITEM 4.I.C, AASL 3.1.6, ISTE 2.c**	-Copyright lesson
Beginning Website Usage	-Understand website's text and graphics- -Understand different icons: clock, cursor, undo/redo, hourglass, scrolling, window bar, desktop, and taskbar -Introduce search commands: keywords, breadcrumbs, home **ITEM 3.II.A/B, ISTE 1.d**	-Website 101 Lesson
Organizing information	Identify categories and themes across a variety of resources -Manage information with graphic organizers -Locate information in a variety of sources -Recognize and use facts that answer specific questions **AASL 2.1.1 AASL 2.1.2 AASL 1.1.6 AASL 2.1.3 AASL 2.1.4 AASL 3.1.4 AASL 1.1.8, ISTE 3, ITEM 2.IV.C, ITEM 1.II./III**	-Bat Research Project
Main Idea/Supporting Details	-Find the common main idea in a text -Verbally, write, or draw main idea and	-Main Idea/supporting details lesson

	supporting details -Draw a conclusion from main idea. -Ask and answer questions about key details. **AASL 1.1.6, AASL 1.1.7** **ITEM 1.III.A AASL 1.1.6 AASL 2.1.3** **ELA 2.2.2.2 ELA 1.2.7.7 AASL 1.1.7** **ELA 2.1.2.2 ELA 1.6.8.8 ELA 2.8.7.7** **ELA 1.2.1.1 ELA 2.8.2.2**	
Response to reading	-Share what they learned -Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly and add drawings or visual displays to clarify ideas, thoughts,and feelings. **ELA 2.8.4.4, ELA 2.8.5.5,AASL 1.1.9** **AASL 2.1.5 , AASL 3.1.5** **ITEM 2.I.C**	-Brain Fuzzies (questions to support/respond to read aloud -
Participate in read aloud, storytelling, and silent reading experiences.	-Use context clues to confirm or self correct word recognition and understanding. -Make predictions. -Make inferences **AASL 1.1.9 AASL 2.1.5 AASL 3.1.2** **ELA 2.8.1.1 ELA ITEM 2.II.A, 2.3.1.4** **AASL 1.1.9 AASL 2.1.5 AASL 3.1.2**	--Brain Fuzzies (questions to support/respond to read aloud -One Dog Canoe Readers Theater
Communicate ideas effectively using a variety of media and format	**AASL 2.1.4, AASL 2.1.6 AASL 3.1.3** **ELA 0.6.2.2**	-2nd Grade Weather Show -Book Reports
Tell a story using an audio or video tool	**AASL 2.1.4 AASL 2.1.6AASL 3.1.3,** **ITEM 2.III.A/B**	-2nd Grade Weather Show -Book Reports
Making Connections	-Compare and contrast their own personal experiences with the book character(s) -Connect ideas to own interests -text to self, text to world, text to text, **AASL 3.1.3 AASL 3.1.5 AASL 1.1.2 ,** **ITEM 2.IV.A/C**	-Bats in the Library activity: making connections lesson
Bias/discrimination	-Listen to selected stories and identify bias and discrimination that takes place in story	-The Butter Battle Book lesson/activity

	ELA 2.1.7.7, ITEM 2.IV.B	
Collaboration	Collaborate with other students using age-appropriate to share information and works with teachers/students/family members (ex: video, graphic organizer, story-building software, etc) **AASL 2.1.5 AASL 2.1.6 AASL 3.1.3 ELA 0.6.6.6 ELA 2.6.6.6 ELA 2.8.8.8, ITEM 2.I.B**	-Bat research project
Questioning	Ask and answer who, what, where, when, why and how questions to demonstrate understanding of key details. **AASL 2.1.1.1 ELA 2.2.1.1**	-Bat research project
Multimedia Group Work	-Interacts, collaborates and publishes with peers, experts or others using a variety of digital environments and Media. **AASL 1.1.9 AASL 2.1.5 AASL 2.1.6 AASL 3.1.2 AASL 3.1.4, ITEM 2.**	-Bat research project

Third Grade ISD#834 Media Curriculum Overview, 2017

+Digital Citizenship: Understand and practice appropriate and safe uses of technology

+Information Literacy: Engages in the information literacy process: access, evaluate and communicate information and ideas. Uses a variety of skills and strategies to comprehend nonfiction and informational text.

+Reading Skills and appreciation: Listens to and/or reads for a variety of purposes and across genres. Students in our district also have the opportunity for checking out materials to take home to explore further on a 6 day rotation cycle.

	DETAILS/STANDARD	**LESSON EXAMPLE(S)**
Library organization and procedures	-Purpose of library / media specialist -Where things are -Understand books have special place in library (library organization) -How to check out (using a shelf marker to browse, visiting the desk)/return materials (responsibility) **AASL 1.1.4, ITEM 3.I.B**	-Media Orientation -Media Manners game -Interactive Modeling
Responsive classroom	-Expectations -Communicate ideas with others in a respectful manner. -Participate in a large group discussion. -Understanding that different people will like different books (and different abilities). -Work in a group or pairs effectively -engage effectively in a range of collaborative discussions with diverse partners building on others' ideas and expressing their own clearly. -Follow agreed-upon rules for discussions. -Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. -Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of	-Hopes and Dreams -Media Rules-making -Interactive Modeling

	others. -Explain their own ideas and understanding in light of the discussion. -Cooperate and compromise as appropriate for productive group discussion. -Speak in complete sentences when appropriate to task and situation in order to provide detail or clarification. **District Initiative, ITEM 2.II.B., Common Core 1.8.1.1, AASL 2.1.5, AASL 1.1.9, AASL 2.1.5, AASL 3.1.2 ELA 1.8.1.1, ELA 0.8.6.6 , ELA 1.8.1.1 ELA 3.8.6.6**	
Book Care/ Technology Care	-Expectations of book care/technology care -Understand the privileges and responsibilities as outlined in acceptable use possibility **ITEM 4.I. A/B**	-Interactive Modeling of technology tools -Book care mini-lesson
Destiny Library Catalog System	-accessing online catalog for keyword/author/subject searches -Students understand log in/username -logging into account and able to successfully recommend book or add book to own wish list , etc **ISTE 2.b** **ITEM 1.II.A** **ITEM 2.I.B.**	-Destiny Library catalog lesson
Print Nonfiction Resources	-understanding dewey decimal for nonfiction topics -nonfiction text features **ISTE 3.a** **ITEM 1.II A**	-Dewey Decimal and non-fiction exploration lesson(s)

Using Online Resources	-ELM Resources databases, Web search tips/strategies, online databases, general search engines, keyword/phrases searches -Participate in age-appropriate opportunities for open-ended explorations -Explain what they have learned from their open-ended explorations **ISTE 3.a./c** **ITEM 1. II A, ITEM 3.II.B**	-ELM resource exploration lesson - can be more in depth and individual lessons on each resource with exploration and guided practice or overview of all resources
Note taking	-Identify source of information before taking notes -copyright/plagiarism -While taking notes, identify /organize topics -Use charts and graphic organizers to record info -Connect new information to prior knowledge -Report on a topic or text and avoid plagiarism by identifying sources **ELA 3.8.4.4,ITEM 1.II.E** **ITEM 1. III.A, ITEM 4.I.C.**	-Trash/treasure note taking lesson (includes copyright)
Response to reading	-Appreciate how voice inflection and visual effects add to understanding of a story (print/digital/audio/etc -Continuously reflect on literacy skills and grow as learners -Engage in classroom discussion of questions answered, discrepancies found, and questions remaining. -Demonstrate comprehension by sharing their learning -Describe characters of a story and explain how their actions contribute to the sequence of events. -Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza. Describe how each successive part builds on earlier sections. - Compare and contrast themes, settings, and plots of stories written by the same author about same or similar characters.	-Interactive read alouds -Reading and response

	-Describe the relationship between a series of historical events, scientific ideas or concepts or steps in technical procedures in a text using language that pertains to time, sequence and cause/effect. -Compare and contrast the most important points and key details presented in two texts on the same topic. -Use information gained from illustrations and the words in a text to demonstrate an understanding of the text. **AASL 1.1.9AASL 3.1.2 AASI 3.1.1 AASL 2.1.5 AASL 3.1.5 AASL 2.1.4 , ITEM 3.I. C/D ELA 3.1.3.3, ELA 3.1.4.4 ELA 3.1.5.5 ELA 3.1.6.6 ELA 3.1.9.9 ELA 3.2.3.3 ELA 3.2.6.6 ELA 3.2.9.9 ELA 3.2.7.7 ELA 3.2.9.9**	
Story Elements	-Understand and identify story elements -Compare and contrast elements found in a variety of literature **ITEM 2.I.D.**	-Story Elements with Fairy Tale exploration
Literature appreciation	-Selects, reads (or listens) to a variety of high quality literature. -Participate in read aloud, story telling, readers theater, and silent experiences -Explores genres -Recognize criteria based for local, state, national, and international awards for print, nonprint and multimedia -Articulate appreciation for qualities found in literature -Recognize other cultures and their unique perspectives Self-selects texts for personal enjoyment, interest and academic tasks. **ITEM 3.I.A, D AASL 3.1.2 ELA 3.1.10.10 ELA 3.2.10.10**	-Maud Hart Lovelace books -Genre Studies -Author/illustrator studies -Henry's Freedom Box Readers Theater -Dewey Nonfiction/Fiction Readers Theater -Fairy Tale exploration
Multimedia story creation	-Communicate ideas using a variety of media and formats -Identify a variety of formats to communicate ideas -tell or write/illustrate a story	-Comic Book Stories online (B, M, E) lesson/activity -Story Telling on iPad

	-Use the writing process, media and visual literacy skills to create products that express new understandings to an audience both formally and informally -Use self-assessment tool to evaluate their work and process -Use visual displays when appropriate to emphasize or enhance certain facts or details. **ITEM 2.I.3 A/B, ISTE ٪ ELA 3.8.5.5 ELA 3.8.5.5**	
Apply literacy skills across multiple formats	-Read, view and listen to stories and make connections with self, world, and previous knowledge -Reflect on literacy skills and grow as learners, adapting to a variety of information formats (books, computers, ebooks, audiobooks, etc) -Evaluate materials with regard to quality, accuracy, bias, purpose, and message -Distinguish among, understand, and use different types of print, digital and multimodal media. -Make informed judgements about messages promoted in the mass media (film, tv, radio, magazines, etc.0 -Locate and use information in print, non-print, and digital resources and identify reasons for choosing information used. -Check for accuracy in pictures and images. **ITEM 3.IV. A,B,C ELA 3.8.7.7**	-Compare and contrast stories with their own experience - listen to stories and identify bias or discrimination -Electronic resource/database exploration unit
Keyboarding	-Use keyboard/mouse/trackpad -Build word processing proficiency **ISTE 1.d, ITEM 3.I.B**	-Typing Club intro/unit
Google Docs Exploration	-Change font style and size -Learn to capture images/ Insert and resize graphics/text -Students open, name, and print documents -Recognize common computer/technology vocab (icons, etc in	-Google Drive intro/unit

	Google Drive) -Understand that technology is not static and material is not necessarily gone if erased **ITEM 3.I.B/E, ITEM 4.II.A, ISTE 1.c,d**	
Digital Citizenship	-Explain why private identity should not be communicated without adult permission -Learn tools to protect their privacy / privacy of others -Use secure passwords and seek permission before displaying information/images of others/themselves -Not use technology for cyber bullying/harassing others -Demonstrate safe behavior while communicating online -Demonstrate responsibility and respect for collaborative content -Learn personal security and importance of personal digital safety **ISTE 2 a/b/c/d, ITEM 3.I.A., ITEM 4 D/E** **ELA 3.8.7.7**	-Cyber Safety (Cyber Sam) mini-unit -Trash and Treasure Note-taking lesson (copyright listed earlier)
Coding	-Brief overview/intro of coding **ISTE 5**	-Hour of Code /coding mini unit
Genre Exploration	-Appreciate a variety of authors, subjects, and genres **ITEM 2.I.D**	-Genre studies -Mystery of Eatum Hall/mystery vocab lesson -Henry's Freedom Box Readers Theater (historical fiction) -Genre Bingo -Sci Fiction Robots lesson/activity
Questioning	-Ask and answer questions to demonstrate understanding of a text, referring specifically to the text. -Ask and answer questions about information from a speaker. **ELA 3.1.1.1 ELA 3.8.3.3**	-Brain fuzzies during interactive read aloud
Retell	Recount stories (fables, folktales, and myths) from diverse cultures to determine message, lesson, or moral and explain how it is conveyed through key details.	-Fairy/folk tale exploration

	(ELA 3.1.2.2)	
Role of pictures in texts	Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words of the story (create mood, emphasize aspects of a character or setting). **ELA 3.1.7.7**	-Caldecott exporation
Text features	-use text features and search tools to locate information relevant to a given topic efficiently. -use glossaries, print and digital to determine or clarify meanings. **ELA 3.2.6.6 ELA 3.10.4.4**	-Nonfiction Text Feature QR Code Ipad Activity

Fourth Grade ISD#834 Media Curriculum Overview, 2017

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+Reading Skills and appreciation: Listens to and/or reads for a variety of purposes and across genres. Students in our district also have the opportunity for checking out materials to take home to explore further on a 6 day rotation cycle.

Use other one- this one is wonky

Fifth Grade ISD#834 Media Curriculum Overview, 2017

+Digital Citizenship: Understand and practice appropriate and safe uses of technology

+Information Literacy: Engages in the information literacy process: access, evaluate and communicate information and ideas. Uses a variety of skills and strategies to comprehend nonfiction and informational text.

+Reading Skills and appreciation: Listens to and/or reads for a variety of purposes and across genres. Students in our district also have the opportunity for checking out materials to take home to explore further on a 6 day rotation cycle.

	DETAILS/STANDARD	**LESSON EXAMPLE(S)**
Library organization and procedures	-Where things are -Understand books have special place in library (library organization) -How to check out (using a shelf marker to browse, visiting the desk)/return materials (responsibility) -Review expectations of technology and book care/usage (using RC strategy of interactive modeling) -Understand the privileges and responsibilities as outlined in the acceptable use possibility **ITEM 4.I. A/B, AASL 1.1.4,ITEM 3.I.B**	-Media Orientation -Media Kahoot -Interactive Modeling -Library meme creation
Responsive classroom	-Expectations -Communicate ideas with others in a respectful manner. -Participate in a large group discussion. -Understanding that different people will like different books (and different abilities). -Work in a group or pairs effectively **District Initiative, ITEM 2.II.B. Common Core 1.8.1.1,AASL 2.1.5, AASL 1.1.9 AASL 2.1.5 AASL 3.1.2 ELA 1.8.1.1 ELA 0.8.6.6 ELA 1.8.1.1**	-Hopes and Dreams -Media Rules-making -Interactive Modeling -Library meme creation

Destiny Library Catalog System	-accessing online catalog for keyword/author/subject searches -Students understand log in/username -logging into account and able to successfully recommend book or add book to own wish list , etc **ISTE 2.b, ITEM 1.II.A, ITEM 2.I.B.**	-Destiny Library Catalog overview lesson
Print Nonfiction Resources	-understanding dewey decimal for nonfiction topics -nonfiction text features **ISTE 3.a, ITEM 1.II A**	-Dewey Decimal system review -Parts of a Text -if requested
Using Online Resources	-ELM Resources databases, Web search tips/strategies, online databases, general search engines, keyword/phrases searches -Participate in age-appropriate opportunities for open-ended explorations -Explain what they have learned from their open-ended explorations -Compare two or more sources to evaluate for bias, accuracy, completeness, and purpose **ISTE 3.a./c** **ITEM 1. II A, ITEM 3.II.B**	-ELM resource database exploration (note: could be unit if hands on for each database or overview lesson) -Web search strategies -Website evaluation Nearpod presentation -How to Google Effectively Nearpod presentation
Note taking	-Identify source of information before taking notes -copyright/plagiarism -While taking notes, identify /organize topics -Use charts and graphic organizers to record info -Connect new information to prior knowledge **ITEM 1.II.E, ITEM 1. III.A, ITEM 4.I.C.**	-Trash/treasure note taking -Copyright court case readers theater/Library of Congress discussion
Response to reading	-Appreciate how voice inflection and visual effects add to understanding of a story (print/digital/audio/etc -Continuously reflect on literacy skills and grow as learners -Engage in classroom discussion of questions answered, discrepancies found, and remaining questions.	-Interactive read aloud -Brain fuzzy reading questions -Think/pair share

	-Demonstrate comprehension by sharing their learning -Compare and contrast personal experience with the experiences of literary figures **AASL 1.1.9, AASL 3.1.2 , AASI 3.1.1** **AASL 2.1.5 , AASL 3.1.5** **AASL 2.1.4 , ITEM 3.I. C/D**	
Literature appreciation	-Selects, reads (or listens) to a variety of high quality literature. -Participate in read aloud, story telling, readers theater, and silent experiences -Author/illustrator studies -Explores genres -Recognize criteria based for local, state, national, and international awards for print, nonprint and multimedia -Articulate appreciation for qualities found in literature -Recognize other cultures and their unique perspectives **ITEM 3.I.A/D, AASL 3.1.2**	-Maud Hart Lovelace award/book talks -Newbury award/book talks -Readers Theater experiences (ex: Star Wars) -Author/illustrator studies (ex: Neil Gaimen) -Genre exploration: book tasting event, genre bingo, Genre ppt.
Multimedia story creation	-Communicate ideas using variety of media and formats -Identify a variety of formats to communicate ideas -tell or write/illustrate a story -Use the writing process, media and visual literacy skills to create products that express new understandings to an audience both formally and informally -Use self-assessment tool to evaluate their work and process **ITEM 2.I.3 A/B, ISTE 5/6**	-Writing scary comics /scary stories with a twist online /graphics -Google doc creation I'm Thankful project -I Love to Read Month favorite book wordle creation
Apply literacy skills across multiple formats	-Read, view and listen to stories and make connections with self, world, and previous knowledge -Reflect on literacy skills and grow as learners, adapting to variety of information formats (books, computers, ebooks, audiobooks, etc) -Evaluate materials with regard to quality, accuracy, bias, purpose, and message **ITEM 3.IV. A,B,C**	-Compare and contrast stories with their own experience -listen to stories and identify bias or discrimination)

Google Docs Exploration	-Change font style and size -Learn to capture images/ Insert and resize graphics/text -Students open, name, and print documents -Recognize common computer/technology vocab (icons, etc in Google Drive) -Understand that technology is not static and material is not necessarily gone if erased **ITEM 3.I.B/E, ITEM 4.II.A, ISTE 1.c,d**	- Library meme project -Favorite First Line project -I'm Thankful Google project
Digital Citizenship	-Explain why private identity should not be communicated without adult permission -Learn tools to protect their privacy / privacy of others -Use secure passwords and seek permission before displaying information/images of others/themselves -Not use technology for cyber bullying/harassing others -Demonstrate safe behavior while communicating online -Demonstrate responsibility and respect for collaborative content -Learn personal security and importance of personal digital safety **ISTE 2 a/b/c/d, ITEM 3.I.A., ITEM 4 D/E**	-Cyber safety unit with Cyber Sammy -Digital Citizenship
Coding	-Brief overview/intro of coding **ISTE 5**	-Hour of Code.org week -Google Made with Code emoji activity
Research Skills	-Distinguish between primary and secondary resources -Identify additional resources (in community to interview, historical society)	-Collaborate with 5th gr teachers during nonfiction research

end.