

3-Year Technology Plan 2015-2018

Medicine Hat School District No. 76



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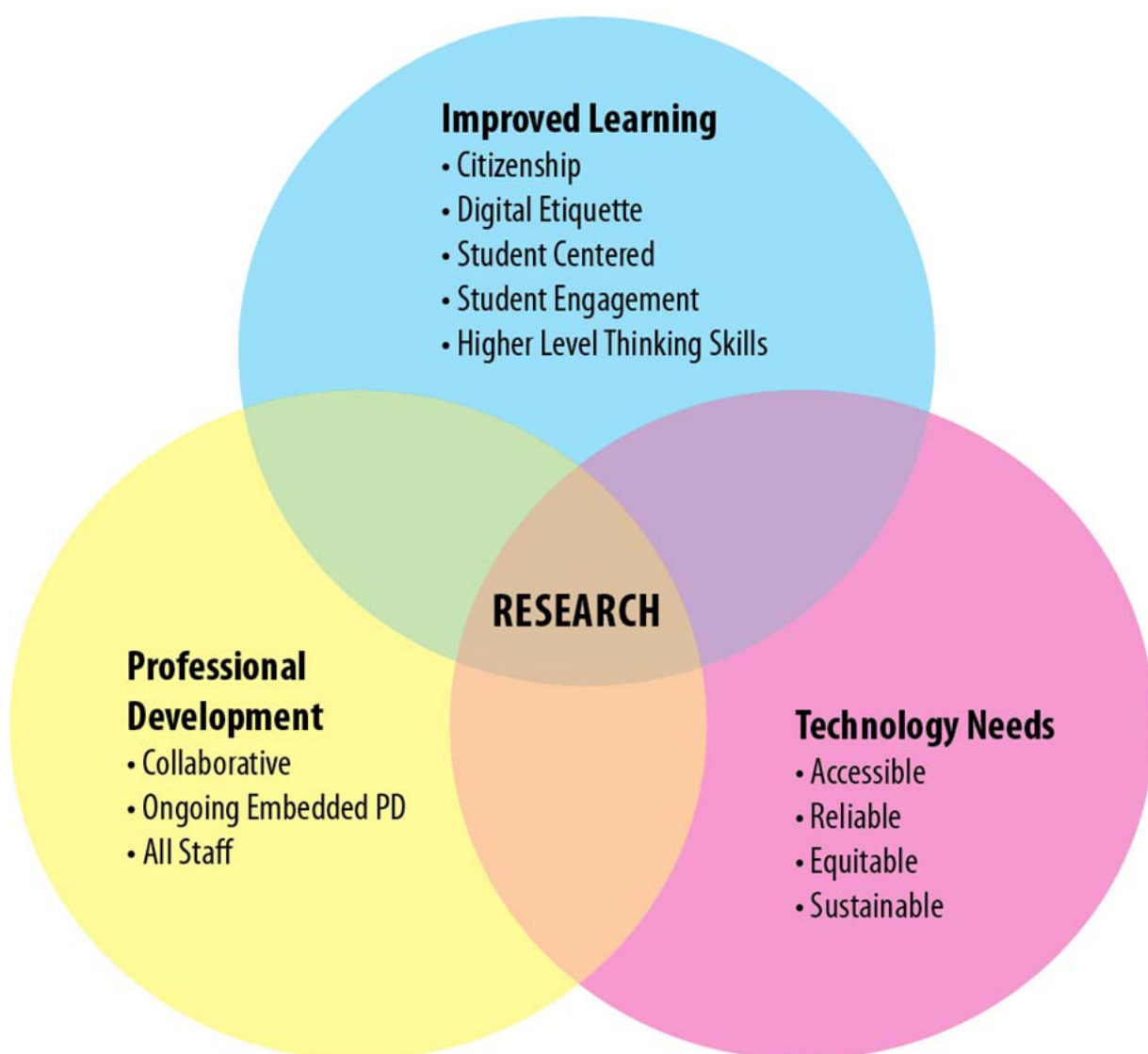
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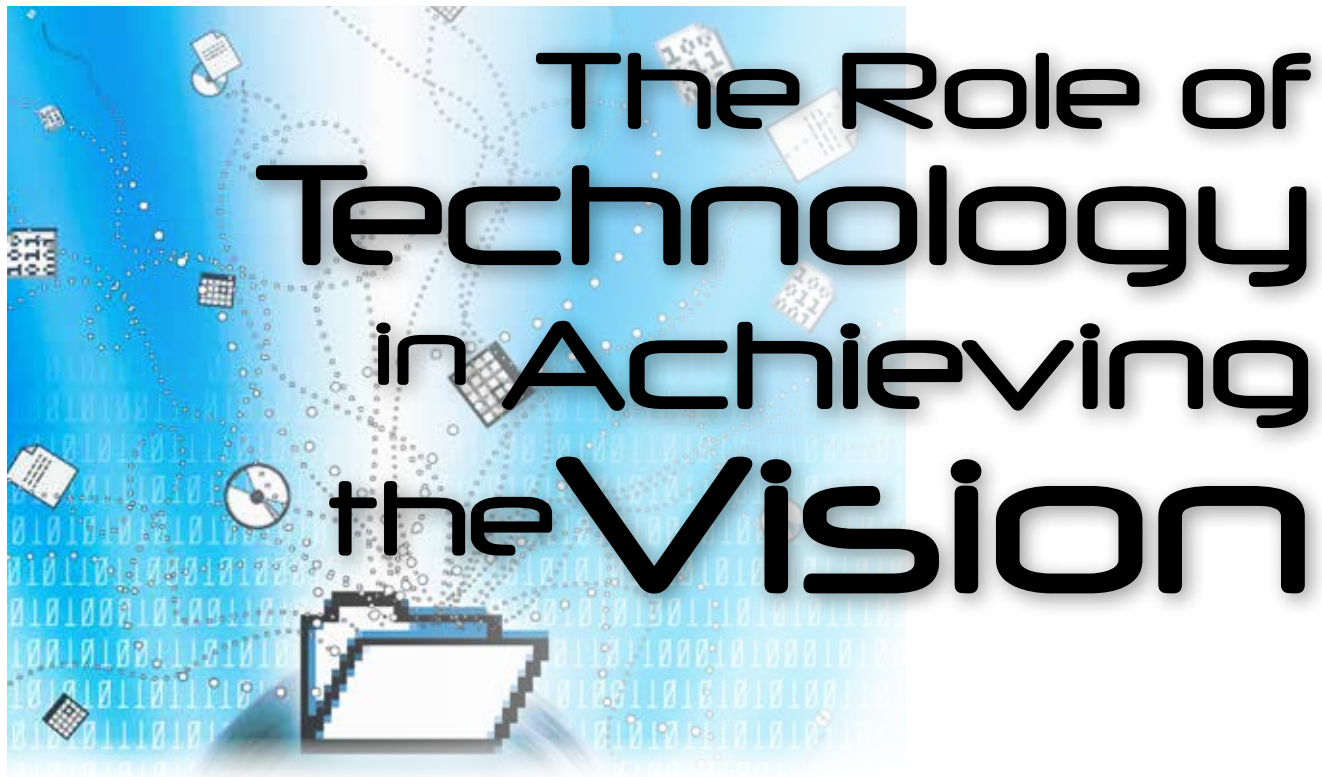
Introduction

To prepare Medicine Hat School District (MHSD) students for the 21st Century digital economy, it is important for our system to be proactive in the technology needs of school community stakeholders. Supporting a pedagogical shift that engages multiple technological platforms, methodologies and devices in a way that supports instruction and student learning can cultivate a rich learning environment. Technology can help support anywhere and anytime learning that can be in and out of the traditional classroom environment. In any learning space effective teaching requires a mindful and purposeful focus on the: delivery of instruction, assessment for and of learning, inquiry-based learning, collaboration, citizenship, critical thinking, innovation and creativity.

The MHSD Three Year Technology Plan created envisions the integration of technology as a natural part of the educational experience. The aim is to create a sustainable, open and dynamic technological environment that allows the community of learners equal access to support improved learning.

Four main goals have been created and are being endorsed throughout the district. The model below provides an overview of the components of MHSD's vision and the core of actions being researched. This document provides direction for technology supports for all stakeholders in the learning community.





The Role of Technology in Achieving the Vision

“If we are to shape the future of education and not have it shaped for us, we must become more purposeful in our approach to technology. We need to understand what may be emerging, its implications, and how it can be used for education. Ultimately, the power of technology should be harnessed to support innovation and discovery, not simply to aid teaching. We need to engage learners to use these new technologies as designers and creators of knowledge.” - Inspiring Education

One of the key roles technology can serve in K–12 education is to shift the focus from the system, school and content toward learning and the learner, building competencies and enabling the learner to create and share knowledge. Technology is recognized as playing an integral role in creating student-centred, personalized, authentic learning environments.

Innovative and routine uses of technology:

- enable students to research information, construct and creatively express their knowledge and collaborate and communicate with peers and experts worldwide
- enable innovative approaches to teaching and learning that improve the quality of students' learning experiences while increasing student choice
- enhance professional learning opportunities and experiences
- increase the capacity of the education system to support improved student learning by realizing data, management and administrative efficiencies
- improve data analyses, information sharing and communication within and beyond the school community.

Alberta Education (2013), ***Learning and Technology Policy Framework*** accessed from: <https://education.alberta.ca/media/7792655/learning-and-technology-policy-framework-web.pdf>

The Principles

The following principles, identified in Inspiring Education, are key to achieving Alberta's vision for learning. The chart below presents Inspiring Education's description of the principle and identifies the role that technology plays in supporting that principle.

Principle	Description	Role of Technology
Learner-centred	Decision makers should consider the needs of children and youth first and foremost when making decisions.	Technologies enable students to learn at their own pace, anywhere, at any time. Digital content, assistive technologies, online learning and other tools provide platforms for personalizing learning for each student.
Shared Responsibility and Accountability	Acknowledging that parents are the primary guides and decision-makers for children, all partners in education should share responsibility and accountability for education outcomes.	Technology enables open lines of communication between all partners in education. This offers parents, students and teachers the ability to track progress, stay informed and work together to improve learning.
Engaged Communities	Community resources should be fully engaged to support learners, including expertise, facilities, services and learning opportunities. Community resources—whether local, provincial, national or global—should actively participate in the education of learners.	Today's technologies provide a window to the world. Local, provincial, national and global connections enable authentic, real-world contexts to the students' academic studies.
Inclusive, Equitable Access	Every learner should have fair and reasonable access to educational opportunities regardless of ability, economic circumstance, location, or cultural background. Their needs and ways of life should be respected and valued within an inclusive learning environment. Some learners will require additional, specialized supports to fully access these opportunities.	Technology can provide equitable access to learning opportunities (e.g., online learning; multimodality of digital content; specialized software, apps or websites to accommodate unique learning needs).
Responsive, Flexible Approach	Children and youth should have meaningful learning opportunities appropriate to each learner's developmental stage, including learning that is experiential, multidisciplinary, community-based and self-paced. To ensure the learning opportunities are relevant, the education system must be nimble in responding to the changing needs of communities and the world.	The access to networked technologies can provide students with expanded educational opportunities. Technologies enable teachers to adapt resources, activities and instructional strategies to better meet the needs of each student, offering authentic learning as well as community-based, independent and global learning.
Sustainable and Efficient Use of Resources	Children and youth should have meaningful learning opportunities appropriate to each learner's developmental stage, including learning that is experiential, multidisciplinary, community-based and self-paced. To ensure the learning opportunities are relevant, the education system must be nimble in responding to the changing needs of communities and the world.	Technology can serve as a vehicle for optimizing and sharing resources, minimizing duplication and providing data to monitor progress over time.
Innovation to Promote and Strive for Excellence	Creativity and innovation are central to achieving excellence in education. Learners, educators and governors must be creative, innovative and entrepreneurial to attain the highest possible standards.	Creativity and innovation are fostered through access to new people, experiences, ideas, cultures and locations. Technology offers options for such connections as well as a platform for creation and sharing.

Alberta Education (2013), *Learning and Technology Policy Framework* accessed from: <https://education.alberta.ca/media/7792655/learning-and-technology-policy-framework-web.pdf>

Role of District Technology Committee

MHSD has formed a Technology Committee as an advisory group whose members represent teachers and administrators from across the district. The committee's roles are to disseminate information to the broader teaching and administrative community, share and collaborate regarding their own approaches to technology integration and student learning as well as model the vision for technology and instruction throughout the district. The long range plan for the district will include hardware, software, professional learning opportunities, capacity building and knowledge sharing. The aim of the committee is to:

- Provide input into the district's technology plan
- Provide ongoing recommendations on the plan revision as appropriate
- Monitor/advise on plan alignment with the district mission and provide recommendations for achieving the same
- Provide assistance with the implementation of plan goals when appropriate
- Provide advice on how the district can impart technology and Internet based offerings to the community and enhance district/community interaction
- Provide feedback from the areas that the committee members represent to the technology committee
- Collaborate and share technology applications in instruction and how it is being leveraged to support student learning
- Provide updates to school staff on technology processes
- Provide advice and recommendations on how to effectively measure the impact that technology within the district has on its students learning
- Consider the impact of new technology on potential learning opportunities for students
- Gain an understanding of the district's technology plan and share this with members of the community
- Understand and share the research. Ensure that research is included as a basis for making sound instructional technology decisions
- Create the liaison and ongoing district professional development to support improved learning

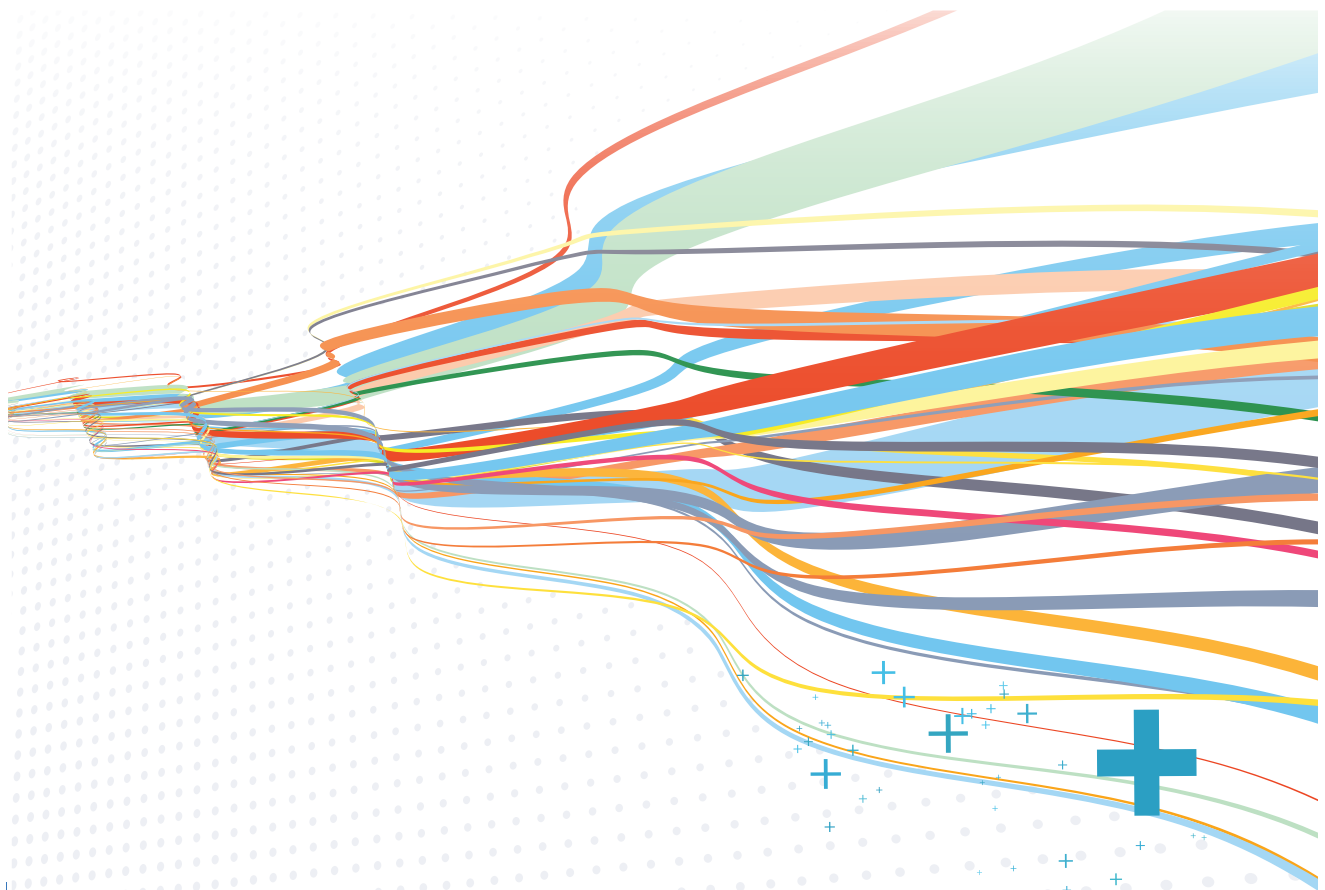


Improved Learning

Improved Student Learning... is 21st Century Learning!

Advances in understanding how the human brain learns plus the discovery that, due to their exposure to digital-age technology; which itself has grown at an explosive rate over the past decade, lead to the realization that, for the most part, today's students (digital natives) are very different from those of the past (digital immigrants). It has been discovered that their brains are actually "wired" differently and hence they learn differently. Students have adapted to media bombardment; rapid-fire, multi-media stimulation. They need to multi-task and be continuously engaged. Students prefer to attempt multiple approaches to situations rather than stoically plod through a concrete-sequential algorithmic resolution. In other words, the "teacher-driven" approaches we used in the past were completely contrary to the learning environment these students had adapted to.

Teachers must be confident that they will have appropriate ongoing PD and support in both learning technology and applying it to student learning. It is crucial for technology to be integrated into core curriculum and used in daily learning activities to improve digital literacy's.



Goal 1: New approach to Technology Integration and Deployment					
Outcomes	Strategies	Budget/Resources	Timeline	Responsibilities	Measures
Evergreening Plan	Baseline data gathering to inform processes		2015- 2018 *revisit to ensure new approach is conducive to change		Will be solidified once the data gathering and analysis of baseline information is completed
Pedagogical shift through school to school mentoring, school	New Framework for Technology Replacement and Implementation	½ Day PD days, substitute relief Directors of Programs and Instruction - in-services Piloting new technology - cost structure dependent on technology budget		Educational Technologist Administrator of Information Technologies	Feedback from Admin
	Chrome Book Pilot- School to school mentoring-resources and best practices	Consideration of student based pilots (new devices) and student led support (prototyping)		Directors of Programs and Instruction	Survey
	School visits (model classrooms)			Key staff (for pilot purposes)	
	Year 1 - tandem old/new technology infrastructure to phase in new approaches	Internal coaching and mentoring opportunities (school based) Free PD offerings Release teachers for short observations in classrooms (pedagogy and application) Potential release time for Tech Advisory members			

Goal 2: Increase Communication and Capacity Building of Stakeholders regarding Technology					
Outcomes	Strategies	Budget / Resources	Timeline	Responsibilities	Measures
Information dissemination to staff- system capabilities and usage Data Gathering to inform Technology Direction and Supports District Technology Updates Staff PD opportunities and resources	Baseline data gathering to inform processes Leverage Technology Advisory Committee- time allocated at staff meetings for information dissemination, updates, and data gathering Supports Tech Advisory mandate Staff meeting time Showcasing technology usage Creative ways to support capacity building 4 District Tech Meetings/year to keep schools engaged and up to date District Tech Advisory members can offer PD at staff meetings, at lunch or after school, support District office personnel as well Introduction and tutorial on Fortinet application Compliance process Website additions for compliance list and other information (GAPE, MHSD Tech Page etc....)	4 Tech Advisory Meetings- PD and substitute funds Potential release time for Tech Advisory members Technology Camps or showcases within the district Capacity Building Opportunities	2015- 2018 *revisit to ensure new approach is conducive to change	Educational Technologist Administrator of Information Technologies Admin Tech Committee Directors of Programs and Instruction District Tech Advisory Committee new approach is conducive to change	Will be solidified once the data gathering and analysis of baseline information is completed Feedback from staff, Advisory Committee Surveys Following tech advisory meetings At minimum 4 times per year/school

Goal 3: Provide Opportunities to support the Ministerial Order

Outcomes	Strategies	Budget / Resources	Timeline	Responsibilities	Measures
Pedagogical shift of technology as a tool for learning-anytime, anywhere	Baseline data gathering to inform processes	Cost of survey implementation and data analysis	2015- 2018 *revisit to ensure new approach is conducive to change	Educational Technologist	Will be solidified once the data gathering and analysis of baseline information is completed
Digital Citizenship	Chromebook and iPad - flex usage	PD ½ days or in-services		Administrator of Information Technologies	Usage rates
21st century teaching and learning tools and digital resources	Planning opportunities with Educational Technologist and Administrator of Information Technologies	IT hardware and software resources		Admin Tech Committee	Surveys
	Differentiated approaches for grades 3-12 (concerted implementation)			Directors of Programs and Instruction	Student inventory
	Presentations, Training of Teachers, Students and parents				
	Student Geek Squads and We Teach Approaches				
Alignment with District Assessment Initiative	Coherence of technology as an instructional tool. Sharing resources and strategies for instruction and technology integration				
	Anytime anywhere learning				
BYOD Implementation	BYOD Implementation-Re-vision BYOD -Implement piecemeal approaches such (inquiry oriented) as Capacity Building, Bring a Device Day, -Genius Hours -DI events - Parent -Purchase Fair				
	Course Management and Delivery Platforms- Google Classroom, Moodle Pilot				
	E-portfolio's - growth oriented measures- GAFE, Moodle and Mahara, Explore other platforms				
	Blended Learning Framework				

Goal 4: Increase School Sharing and Technology Collaboration					
Outcomes	Strategies	Budget/Resources	Timeline	Responsibilities	Measures
Capacity Building Events	Baseline data gathering to inform processes	Resources for Supporting the Learning Commons Philosophy	2015- 2018 *revisit to ensure new approach is conducive to change	Educational Technologist	Will be fleshed out after baseline data has been collected- Increased usage of technology and student engagement
Learning Commons Approach	Working with District Experts, Team Leads and Department Heads on inquiry based projects			May look at leveraging experts in the Learning Commons Philosophy	
	Model BYOD Days to provide increased support for BYOD (Theme days)			Directors of Programs and Instruction	
	Technology Fairs or Ed Camps				
	Technology Advisory sharing sessions and subsequent communication to teachers				
	Showcase of Technology Integration at District Tech Meetings				
	Video Conferencing, Webinars, Google Hangouts and other online learning opportunities				



Based on the feedback from the various stakeholders, the District's BYOD model will focus a hybrid model. The model will target limiting personally owned devices to those that meet specific technical specifications and functionality (i.e. specific versions of operating systems, minimum amount of storage space, internet ready). By ensuring the devices meet these minimum standards, creation of technology supported lesson plans with specific outcomes, are feasible.

Consideration of early adopters, champions and framework

Due to pre-existing district BYOD policies, the implementation will be school to school, based on supporting instruction and learning opportunities.

Strategies:

- Revisit and re-educate regarding the district policies and procedures- Administration, teachers, parents, and students
 - Acceptable use policy and sign off
- Develop District Portal (on website) for device, application and alert information.
- Develop a framework with schools as to how BYOD can be utilized to support student learning and instruction.
 - Includes what device for what purpose conversations
 - Tech team at schools of individuals that are interested in leveraging technology for student learning
- Build curricular resources or curriculum that supports BYOD- Includes digital citizenship program for grades 3-12, curricular connections and connects with Alberta Education technology framework
- Continuous evaluation loop and revamping process to support improvement
- Leverage Technology Advisory Committee- information dissemination, data gathering and collaboration/sharing
- Support tech time at staff meetings and sharing of how BYOD is being used
- Work within the context of Differentiated Instruction challenges, capacity building Professional Development time and genius hour approaches (admin, staff and student levels)
- Infrastructure support from Information Technology is reinforced and continually evaluated
- Consideration of devices - mobile devices, school-owned devices, device recommendation and purchasing guidelines- part of school plan

Pedagogical Framework: Anytime and Anywhere Learning - Synchronous with BYOD

21st century learner should...

- demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology
- use digital media and environments to communicate and work collaboratively and contribute to the learning of others
- apply digital tools to gather, evaluate, and use information
- use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources
- understand human, cultural, and societal issues related to technology and practice legal and ethical behavior
- demonstrate a sound understanding of technology concepts, systems, and operations

Planning/Priorities for this includes:

- Baseline evaluation/survey to assess staff needs.
- School planning in accordance with baseline results, create goals and benchmarks
- Professional Development/Learning and technical support to fully integrate technology into instruction
- Hardware deployment, maintenance, and support
- Infrastructure and networking considerations-support BYOD, Chrome Books, iPads and array of mobile computing devices
- Meet with administration, technology committees, champions, and early adopters to support school based benchmarks
- Teacher training and comfort with using technology (based on baseline) as a tool, how to plan for it- if teachers do not feel comfortable with usage and application in learning/education then it will fail.
- Technology Coaches work best as they are the ones using the technology, can build comfort and understanding around pedagogy.



Technology Needs (Information Technology Operations)

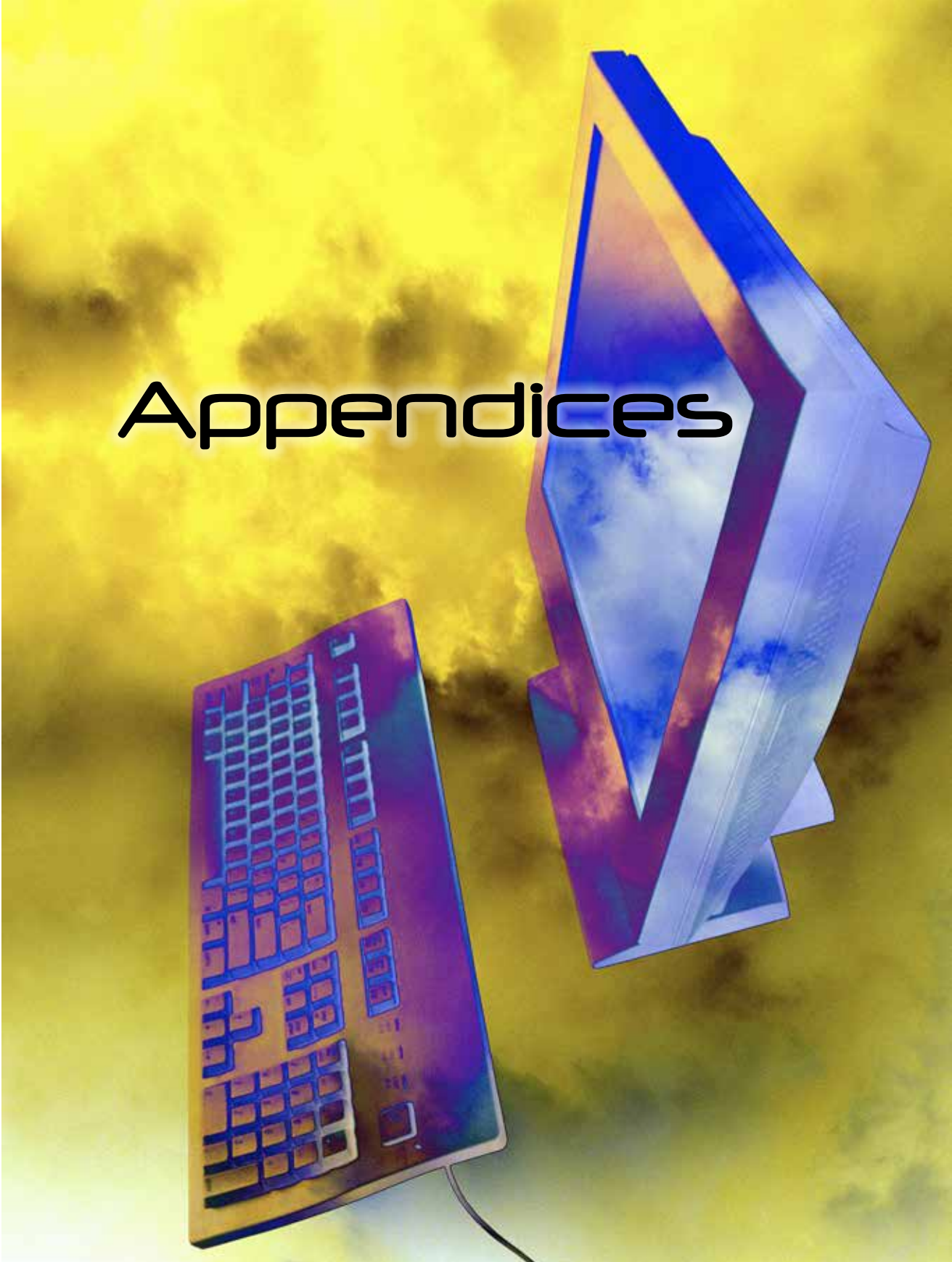
Information technology is, *“the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware.”*

(Information Technology Association of America)

Introduction

Today, Information Technology professionals’ responsibilities have ballooned to encompass many aspects of computing and technology. IT professionals perform a variety of duties that range from installing applications, providing network security, designing complex computer networks and information databases. Medicine Hat School District #76 (MHSD) supports the belief that technology needs to be accessible, reliable, equitable and sustainable to be effective in the school system.

Outcomes	Strategies	Budget/Resources	Timeline	Responsibilities	Measures
Increase IT service availability Service availability, service level agreement (SLA) targets missed	Continue to create Service Level Agreements with Service Providers that are measurable and attainable	Technology Budget	2015-2018	Administrator of Information Technologies IT department	95% of the service requests are completed with the Service Level Targets
Improved operations of new/changed IT services	Increase communication prior to implementing changes Continue to develop the service catalogue Develop a Disaster Recovery that aligns to the District Business Continuity plan	Technology Budget	2015-2018	Administrator of Information Technologies IT department	Survey Development of a Disaster Recovery Plan Completion of an updated Service Catalogue Ensure Equipment is replaced following the Capital Replacement schedule Ensure schools replace / retire non centralized equipment following the district capital replacement standards
Root cause is identified for problems, and activity is initiated to establish workarounds or permanent solutions to identified problems. The number of workarounds and permanent solutions to identified problems is increased.	Require technicians to enter in steps taken to resolve service calls Identify problems that might have an automated/patch solution to prevent further occurrences	Technology Budget	2015-2018	Administrator of Information Technologies IT department	Survey

A computer monitor and keyboard are shown against a background of a sunset sky with orange and yellow clouds. The monitor and keyboard are tilted and have a reflection of the sunset sky on their screens and surfaces. The word "Appendices" is written in a large, black, sans-serif font across the center of the image.

Appendices

Appendix A: 3 Year IT Planning Document

Modernized Infrastructure

Plan and implement for ever-greening of network infrastructure hardware				
<i>Strategy</i>	<i>Budget</i>	<i>Timeline</i>	<i>Responsibilities</i>	<i>Outcome</i>
Implement a Distributed File System (DFS) to all locations	Technology Capital Budget	2015-2016	<i>Supervisor of Information Technologies</i> Information Technologies Department	Increased stability of network
Implement Microsoft Exchange Server 2013 for Staff	N/A	2015-2016	<i>Supervisor of Information Technologies</i>	Resolve Google Chrome issue with accessing Web Outlook
Improve the network Backup System solution				
Increase effectiveness of Backup system utilizing new technologies like Synthetic Full backups and Disk De-Duplication	Information Technologies Budget	2015-2017	<i>Administrator of Information Technologies</i> Network Technicians	Effective use of new technologies Ensure recovery of information during a failure or disaster
Improve the Email system in the District				
Review current Anti Spam system and compare to the other systems available	N/A	2016-2017	<i>Administrator of Information Technologies</i>	Improved Communication
Implement new Anti Spam system	Information Technologies Budget	2016-2017	<i>Supervisor of Information Technologies</i> Information Technologies Department	Improved Communication

Security, Inventory and Accountability

Improve asset and Inventory Management				
<i>Strategy</i>	<i>Budget</i>	<i>Timeline</i>	<i>Responsibilities</i>	<i>Outcome</i>
Develop business process models that ensure inventory is accurate, including acquisition and disposal	N/A	2015-2016	Administrator of Information Technologies Secretary Treasurer	Asset Tracking
Implement the inventory tracking module of SYSAid	Project Based Funding (if approved)	2015 Completed	Administrator of Information Technologies Information Technologies Department	Asset Tracking
Standards				
Continue Implementing ITIL industry standards	N/A	2015-2018	Administrator of Information Technologies	Standards
Implement a hardware / software purchasing guidelines that all purchases are done in a manner consistent with the direction of the district	N/A	2015-2016	Administrator of Information Technologies Superintendent of Schools Secretary Treasurer School Principals	Standards
Increase Security on the network				
Develop an annual communication to ensure users are aware of the District Password policies and why users should not share passwords	N/A	2015-2016	Administrator of Information Technologies Superintendent of Schools Technology Admin Committee	Protect access to the network and sensitive information
Update and document the firewall rules	N/A	2015-2016	Administrator of Information Technologies Supervisor of Information Technologies	Protect access to the network and sensitive information

Student Information and Information Flow

Student Information and Information Flow				
<i>Strategy</i>	<i>Budget</i>	<i>Timeline</i>	<i>Responsibilities</i>	<i>Outcome</i>
Investigate processes and technology strategies to minimize or eliminate redundant data entry in: grade books, course management, IPP systems, help desk systems and web portals in real-time or near real-time	N/A	2015-2017	<i>Administrator of Information Technologies</i> District Admin Team	Standards Consistent Information Consistent Data
Investigate connectivity frameworks that will bridge the data gap between the SIS system and other core applications including current transportation software and the current IPP provider	N/A	2015-2017	<i>Administrator of Information Technologies</i> District Admin Team	Standards Consistent Information Consistent Data
Improved web communication – portals, document sharing, collaborations tools, financial information, divisional information and student information. Connecting stakeholders to the data they need access to	N/A	2015-2017	<i>Administrator of Information Technologies</i> District Admin Team	Standards Improved Communication

Planning for Tomorrow

<i>Strategy</i>	<i>Budget</i>	<i>Timeline</i>	<i>Responsibilities</i>	<i>Outcome</i>
Continue to research and implement Student Owned Devices	N/A	2015-2018	<i>Administrator of Information Technologies</i> Technology Admin Committee	Planning for the Future

Appendix B: Service Level Targets

Priority Level	Service Level Targets					
	Hardware / Network		Phones		Software	
1-Low	Student PC	1 - 5 Business Days	Features not functional	1 - 5 Business Days	usage question	Same Day
2- Low/normal	Teacher Instructional	1 - 3 Business Days	Single Classroom, no service	1-3 Business Days	Software error, work around exists	1 - 5 Business Days
3-Normal	School Administration	1 -3 Business Days	Multiple Classroom, No service	1-2 Business Days	Software error, no work around, Company contacted for repair	Software Publisher Patch Release
4-Normal/High	Lab	1 - 3 Business Days	School Administration Disruption	Same Day		
5-High	School Wide Disruption	1 -3 Business Days	School Wide Disruption	Same Day		
6-Urgent	District Wide Disruption, All Workstations, Non Critical Application	1 - 5 Business Days	No external calling - District Wide	Same Day		
7-Critical	District Wide Disruption, All Workstations, Critical Application	1 -3 Business Days	District Wide Disruption	Same Day		

Appendix C:

District Software Applications

Application	Type of Software	License Description
Adobe Master Collection	Local install	Provical License - Secondary Schools
Adobe Digital School Collection	Local install	Provical License - Elementary Schools
All the Right Type	Local install	Site License per school
Ncomputing Vspace	Local Install	With Hardware student Machines
FireFox Browser	Local install	Site License per school
Flash Player	Local install	
Google Chrome	Local install	
Google Earth	Local Install	
Microsoft Office	Local install	Covered by Provincial Microsoft Licensing Agreement
Quest A+	Local install	Covered by Provincial Microsoft Licensing Agreement
SMART Notebook	Local install	District Wide License – 5 year (2014/15 - 2019/20)
Trend Micro Antivirus	Local install	All office teacher and student windows Computers
Windows OS	Local install	District Wide License – Based on number of FTE Teachers
VLC Player	Local install	Covered by Provincial Microsoft Licensing Agreement
Paint	Local Install	
Java Plugin	Local Install	
Adobe Shockware Plugin	Local Install	
Microsoft Silverlight Plugin	Local Install	
Adobe Air Plugin	Local install	
Itunes	Local Install	
Skype	Local install	
Read & Write Gold	Centralized Server	Per Server License
Power School	Network Install	Site License per school
IPP NetScaffold	Terminal Server	License per School ID number
Mitchell1OnDemand	Website	License per current year IPP
Night Fyre	Website	License per School
Short Grass Library	Website	License per School Library
Synervoice	Website	License per School
SYSAid	Website	License per System
United Streaming	Website	Unlimited User License

Appendix D: IT Capital Replacement with Budget

Overall Budget and Student Device Allocations

4 to 1 Ratio													
Location	Enrollment		Target Student Device Ratio	Chrome Books		Pads		Flex Amount		School Annual Allocation	Teacher Admin Library Circ Library Search Custodian Workstations	Interactive Projector	Network Infrastructure Phone Printers Photocopiers
	Total	FTE Total		Cost		Cost		Cost					
AMS	369	369	4	92	\$ 380	0	\$ 700	37	\$ 18,500	\$ 39,400			
CO	0	0	0	0	\$ -	0	\$ -	0	\$ -	\$ -			
Warehouse	0	0	0	0	\$ -	0	\$ -	0	\$ -	\$ -			
CHHS	1218	1218	305	183	\$ 69,540	0	\$ -	122	\$ 61,000	\$ 130,540			
CN	472	436	109	71	\$ 26,980	16	\$ 11,200	22	\$ 11,000	\$ 49,180			
CW	498	470	118	77	\$ 29,260	18	\$ 12,600	24	\$ 12,000	\$ 53,860			
DRWLC	536	495	124	81	\$ 30,780	19	\$ 13,300	25	\$ 12,500	\$ 56,580			
ELM	157	139	35	23	\$ 8,740	5	\$ 3,500	7	\$ 3,500	\$ 15,740			
GD	369	343	86	56	\$ 21,280	13	\$ 9,100	17	\$ 8,500	\$ 38,880			
HER	253	228	57	37	\$ 14,060	9	\$ 6,300	11	\$ 5,500	\$ 25,860			
MHCS	255	240	60	39	\$ 14,820	9	\$ 6,300	12	\$ 6,000	\$ 27,120			
MHHS	1273	1273	318	191	\$ 72,580	0	\$ -	127	\$ 63,500	\$ 136,080			
RH	280	257	64	42	\$ 15,960	10	\$ 7,000	13	\$ 6,500	\$ 29,460			
RS	107	96	24	16	\$ 6,080	4	\$ 2,800	5	\$ 2,500	\$ 11,380			
RG	306	281	70	46	\$ 17,480	11	\$ 7,700	14	\$ 7,000	\$ 32,180			
SV	196	178	45	29	\$ 11,020	7	\$ 4,900	9	\$ 4,500	\$ 20,420			
VM	290	269	67	44	\$ 16,720	10	\$ 7,000	13	\$ 6,500	\$ 30,220			
WN	283	253	63	41	\$ 15,380	9	\$ 6,300	13	\$ 6,500	\$ 28,380			
All Outreach	0	0	0	31	\$ 11,780	0	\$ -	4	\$ 2,000	\$ 13,780			
Totals	6862	6545	1637	1062	\$ 403,560	140	\$ 98,000	475	\$ 237,500	\$ 739,060	\$ 464,520	368	
Unit Cost					\$ 380		\$ 700		\$ 500			2,500	
Equipment Value					\$ 403,560		\$ 98,000		\$ 237,500		\$ 464,520	920,000	\$ 1,628,800
Replacement Cycle					3		3		3		various	8	\$ 3,752,380
Annual Cost					\$ 134,520		\$ 32,667		\$ 79,167	\$ 246,553	\$ 92,904	115,000	\$ 729,262

Staff Computer Budget and Allocations

Location	Teacher Stations		Interactive Projector	Administration Stations			Library - Search Computers		Custodian Computers		Phone Systems	Photo Copiers	Printers	Network Infrastructure	Total	
	Teacher FTE	One per classroom defined in technology plan Tower 1 Monitor		Admin Teacher FTE	Clerical FTE	1 per Admin teacher FTE and 1 per clerical FTE Tower + 2 Monitors	Library Circulation Desk Tower 1 Monitor	Chromebox	Monitor	Chromebox						Monitor
AMS	20	24	24	2	3	5	1	2	2	1	1					
CO	0	-	-			40			0	1	1					
Warehouse	0	-	-			10			0		0					
CHHS	62	55	55	9	7	16	1	3	3	1	1					
CN	25	23	23	2	2	4	1	2	2	1	1					
CW	28	24	24	3	3	6	1	2	2	1	1					
DRWLC	28	35	35	2	2	4	1	3	3	1	1					
ELM	8	8	8	1	1	2	1	2	2	1	1					
GD	20	23	23	2	2	4	1	2	2	1	1					
HER	17	13	13	1	1	2	1	2	2	1	1					
MHCS	14	14	14	2	1	3	1	2	2	1	1					
MHHS* (renovated)	64	52	52	9	7	16	1	3	3	1	1					
RH	15	16	16	2	1	3	1	2	2	1	1					
RS	6	6	6	1	1	2	1	2	2	1	1					
RG	16	17	17	2	2	4	1	2	2	1	1					
SV	12	15	15	2	1	3	1	2	2	1	1					
VM	15	19	19	2	1	3	1	2	2	1	1					
WN	16	17	17	2	2	4	1	2	2	1	1					
All Outreach	7	7	7	0	1	1			0	1	1					
Totals	373	368	368	44	38	132	16	35	35	18	18					
Unit Cost		\$ 830	\$ 2,500			\$ 960	\$ 830	\$ 230	\$ 130	\$ 230	\$ 130					
Equipment Value		\$ 305,440	\$ 920,000			\$ 126,720	\$ 13,280	\$ 8,050	\$ 4,550	\$ 4,140	\$ 2,340					
Replacement Cycle		5	8			5	5	5	5	5	5					
Annual Cost		\$ 61,088	\$ 115,000			\$ 25,344	\$ 2,656	\$ 1,610	\$ 910	\$ 828	\$ 468					

Infrastructure Equipment

Remote Site					
Location	Server	Storage	Storage Video Surv Capable	UPS	Network Switches
AMS	1	0	1	3	9
CO	0	0	0	0	4
Warehouse	2	2	0	2	2
CHHS	2	0	1	5	17
CN	1	1	0	3	5
CW	1	1	0	3	5
DRWLC	1	0	1	3	9
ELM	1	1	0	2	3
GD	1	1	0	3	5
HER	0	0	0	2	4
MHCS	1	1	0	2	3
MHHS	0	0	1	5	17
RH	1	1	0	2	5
RS	1	1	0	2	3
RG	1	1	0	2	5
SV	1	1	0	2	4
VM	1	1	0	2	5
WN	1	1	0	2	5
All Outreach	1	1	0	2	4
Totals	18	14	4	47	114
Equipment Unit Cost	\$ 3,500	\$ 7,000	\$ 18,000	\$ 1,400	\$ 4,500
Extended	\$ 63,000	\$ 98,000	\$ 72,000	\$ 65,800	\$ 513,000
Replacement Cycle	5	8	8	10	8
Annual Cost	\$ 12,600	\$ 12,250	\$ 9,000	\$ 6,580	\$ 64,125

Core Network					
Device	Quantity	Unit Cost	Extended	Replacement Cycle	Annual Cost
Wireless System					
Access Points	520	\$ 600	\$ 312,000	10	\$ 31,200
Controllers	2	\$ 40,000	\$ 80,000	10	\$ 8,000
Switches	1	\$ 70,000	\$ 70,000	8	\$ 8,750
Storage System	1	\$ 60,000	\$ 60,000	8	\$ 7,500
UPS	6	\$ 2,000	\$ 12,000	10	\$ 1,200
Servers	5	\$ 12,000	\$ 60,000	5	\$ 12,000
Generator	1	\$ 30,000	\$ 30,000	20	\$ 1,500
Firewalls	2	\$ 18,000	\$ 36,000	8	\$ 4,500
Blade Chassis	1	\$ 30,000	\$ 30,000	10	\$ 3,000
Switches	1	\$ 20,000	\$ 20,000	8	\$ 2,500
Storage System	1	\$ 40,000	\$ 40,000	10	\$ 4,000
Servers	3	\$ 12,000	\$ 36,000	5	\$ 7,200
Blade Chassis	1	\$ 25,000	\$ 25,000	10	\$ 2,500
UPS	3	\$ 2,000	\$ 6,000	10	\$ 600

Allocation of Student Computers

Location	ChromeBooks	iPads	Flex	Total Budget
	Cost	Cost	Cost	
CN	71	16	22	\$ 49,180
CW	77	18	24	\$ 53,860
DRWLC	81	19	25	\$ 56,580
ELM	23	5	7	\$ 15,740
GD	56	13	17	\$ 38,880
HER	37	9	11	\$ 25,860
MHCS	39	9	12	\$ 27,120
RH	42	10	13	\$ 29,460
RS	16	4	5	\$ 11,380
RG	46	11	14	\$ 32,180
SV	29	7	9	\$ 20,420
VM	44	10	13	\$ 30,220
WN	41	9	13	\$ 28,380
Totals	602	140	185	\$ 419,260

Location	ChromeBooks	iPads	Flex	Total Budget
	60%	0%	40%	
AMS	55	0	37	\$ 39,400
CHHS	183	0	122	\$ 130,540
MHHS	191	0	127	\$ 136,080
Totals	429	0	286	\$ 306,020

Location	ChromeBooks	iPads	Flex	Total Budget
Central High	10			\$ 3,800
McMann REAL			4	\$ 2,000
PAS Program	3			\$ 1,140
Saamis REAL	4			\$ 1,520
Stay in School	10			\$ 3,800
Young Moms	4			\$ 1,520
Totals	31	0	4	\$ 13,780

Allocation Formulas:

Elementary and K-9 Schools are allocated at : Chromebooks 65%, iPads 15% and ChromeBooks 20%

Secondary Schools are allocated at : Chromebooks 60%, iPads 0% and ChromeBooks 40%

Based on Student FTE, excluding community and PUF students

Teacher computers, based on teacher FTE from Policy 411 allocations excluding admin. (Principal, Vice Principal, Councillors)

Admin Computers, based on Clerical and admin FTE from Policy 411. (Includes teachers excluded from above)

Library Search. Maximum of 2 per library, with the exception of CHHS, DRWLC, MHHS - 3 maximum

Library Circulation desk - Maximum 1 per library

Custodian Computer - maximum 1 per facility with Custodial services

Appendix E: Timelines

Student Workstations, Projectors and Smartboards

Student Computer Replacement Schedule		
Student Computer Replacement Group		
1	2	3
AMS	George Davison	Outreach
CHHS	Herald	Crestwood
MHHS	Riverside	DRWLC
Connaught	Vincent Massey	MHCS
Elm Street	Webster Niblock	
River Heights		
Ross Glen		
Southview		

Interactive Display Replacement Schedule		
2015/16	Connaught	23
	George Davison	23
	Ross Glen	17
	River Heights	16
	Vincent Massey	19
2016/17	MHHS	52
	Southview	15
	Webster Niblock	17
	Stay in School	7
2017/18	AMS	24
	Crestwood	24
	Elm Street	8
	Herald	13
	MHCS	14
	Riverside	6
2018/19	CHHS	55
	DRWLC	35
Total		368

Student Computer Replacement Schedule	
2015/16	1
2016/17	2
2017/18	3
2018/19	1
2019/20	2
2020/21	3
2021/22	1
2022/23	2
2023/24	3
2024/25	1
2025/26	2
2026/27	3
2027/28	1
2028/29	2
2029/30	3

Other Equipment Replacement Schedule

Staff Computers	Admin Computers	2016/17	2021/22	2026/27
	Library Circulation Desk	2016/17	2021/22	2026/27
	Library Search Chrome Box	2016/17	2021/22	2026/27
	Custodian Chrome Box	2016/17	2021/22	2026/27
	Teacher Computers	2019/20	2024/25	2029/30
	Printers	2019/20	2029/30	
	Photocopiers	2020/21	2026/27	
School Network Devices	School Servers	2016/17	2020/21	2025/26
	Elementary Storage Devices	2016/17	2025/26	
	School UPS	2020/21	2030/31	
	Secondary Storage Devices	2020/21	2028/29	
	School Switches	2022/23	2030/31	
	Phone System	2023/24		
Core Network Devices	1/5 Core Servers	Annual		
	1/5 DR Servers	Annual		
	Core Switches	2017/18	2025/26	
	DR Switches	2017/18	2025/26	
	Core Blade Chassis	2019/20	2029/30	
	DR Blade Chassis	2019/20	2029/30	
	Core Firewalls	2020/21	2028/29	
	Wireless Network	2020/21	2030/31	
	Core UPS	2021/22	2029/30	
	DR UPS	2021/22	2029/30	
	Core Storage	2022/23	2030/31	
	DR Storage	2022/23	2030/31	