

Technology Plan
Montgomery County Schools
Mount Sterling, Kentucky



<http://www.montgomery.kyschools.us>

Prepared Date: October 9, 2017
Approved by the Local School Board: October 24, 2017
Plan Start Date: July 1, 2017
Plan Expiration Date: June 30, 2018
Submitted to State: Pending Approval

Acknowledgments

2017-2018 Technology Committee
District Technology Staff
Debbie Goldy, District Technology Integration Specialist
Jason Crouch – District Technology Specialist
Mike Lopez – Computer Maintenance Technician
Brian Crace – Computer Maintenance Technician
School Library Media Specialists
Nikki Henderson, Camargo Elementary School
Kristi Garrison, Mapleton Elementary School
Wendy Rogers, Mt. Sterling Elementary School
Sally McDonald, Montgomery County Intermediate School
Sherrie Wells, McNabb Middle School
Tammy Haydon, Montgomery County High School
School Technology Coordinators
Felicia Spencer, Camargo Elementary School
Traci Ulery, Mapleton Elementary School
Casey Greene, Mt. Sterling Elementary School
Ben Monnett, Montgomery County Intermediate School
Ashlyn Richards, McNabb Middle School
John Vice and Adam Thornsburg, Montgomery County High School
Classroom Teachers
Rachel Stidam, Camargo Elementary School
Ashley Horvath, Camargo Elementary School
Stephanie Wehmeier, Mapleton Elementary School
Rebecca King, Mapleton Elementary School
Casey Greene, Mt. Sterling Elementary School
Ilana Kline, Montgomery County Intermediate School
Ben Monnet, Montgomery County Intermediate School
Amanda Durand, McNabb Middle School
Kayla Simandl, McNabb Middle School
Sherrie Adams, Montgomery County High School
Ginny Muse, Montgomery County High School
Tonya Roach, Montgomery County High School
Additional District Contributors
Monica Spencer, Curriculum Coach
Brandy Holley, Principal
Alice Anderson, Board member
Richard Culross, Deputy Superintendent
Renee Boots, Chief Academic Officer

Table of Contents

Acknowledgmentsi
Executive Summary.....1
Planning Process / Methodology2
Current Technology and Resources3
Curriculum and Instructional Integration Goals5
Curriculum and Instructional Integration Goals – Evaluation7
Student Technology Literacy Goals8
Student Technology Literacy Goals – Evaluation8
Staff Training/ Professional Development Goals..... 10
Staff Training/Professional Development Goals – Evaluation 11
Technology Goals 12
Technology Goals – Evaluation 15
Budget Summary 16

Executive Summary

Montgomery County Schools continues to support its commitment to providing our students and staff with the technology and infrastructure to support the achievement of our educational goals. The district also realizes that professional development and support is important to effectively integrate the technology into the curriculum. In addition, we are committed to ensuring our students have the 21st Century skills needed to make a successful transition to the workforce and/or higher education.

Increased student access to technology is a priority for our district. The district has provided increased wireless coverage throughout the district. The high school and middle school have an updated wireless access point in each classroom. The intermediate school has been approved for an upgrade using E-rate funding and will be upgraded during the 2017-2018 school year. With the additional bandwidth from the state the district explored improvement to our WAN. With the approval of e-rate funding Metro Ethernet connections replaced our wireless Wide Area Network in the 2014-2015 school year. Utilizing E-rate funding the Metro Ethernet connections were upgraded to Switched Ethernet during 2015-2016 and with 2016-2017 E-rate the Switched Ethernet speed was increased from 150 Mbps at the three elementary schools to 1 GB.

During the 2016-2017 school year our district core switch was replaced and include a redundant system. The core switch is also expandable for future development. We also purchase a new high performance server, and we have begun moving some of our virtual servers to this device. This server is also expandable for future development.

Teachers need support, training and equipment to effectively utilize technology. The district and schools have utilized the technology staff, school PLCs, and curriculum coaches to provide assistance with equipment and software.

Communication between school and home is a priority for our district. We will continue to utilize One Call, the Infinite Campus Portal and our district and school web sites with Teacher Web Pages to provide up-to-date information. Plans are in placed to upgrade our web site to be more responsive to devices and to add a Montgomery County app that we can use to push out notifications. The responsive site will be in place during the fall of 2017. The Android and Apple versions of the app will also be ready this fall. The district utilizes Facebook and Twitter accounts.

Planning Process / Methodology

Using data from the technology impact review, district test data, technology assessment of students and teachers, and information from the Kentucky Educational Technology System Master Plan for 2013-2018, goals are created for our district technology plan. Strategies are developed to assist the schools and the district in meeting those goals. Montgomery County Schools' Technology Plan is evaluated and reviewed by key stakeholders. Each year the plan is updated and revised to reflect the needs of our district and our schools in the implementation of our educational goals. The plan is also reviewed by district administration.

Current Technology and Resources

Montgomery County Schools continues to support its commitment to providing our students and staff with the technology and infrastructure to support the achievement of our educational goals. Our district has provided Switched Ethernet connectivity to each of the elementary schools, the intermediate school, the early learning center and the transportation department providing service to the welding class. The district has eighteen physical servers and twenty-four virtual servers. We will continue to upgrade, replace or virtualize servers, as needed. Upgrading the network infrastructure throughout the district continues to be a priority. The effective use of technology in instruction relies on a stable and efficient network infrastructure.

SMARTBoards are available in all elementary, and intermediate homerooms. McNabb Middle School has five SMARTBoards and Montgomery County High School has six SMARTBoards. Interactive projectors are available in the Accelerated Academy, Sterling School and the KECSAC Schools. Utilizing both district technology and KETS funds the district leased 293 workstations. These workstations were used to update the teacher workstations in classrooms to ensure successful implementation of instructional technology. The "old" teacher workstations were used to update several of the labs in the district. Many student workstations in classrooms are also in need of being updated. Staff and students throughout the district have storage space on district servers. Through Google for Education grade 5-12 students and teachers have unlimited storage in their Google Drive. The state uses Microsoft Office 365 for email providing staff and student access to storage on their own One Drive. Both Google Drive and One Drive are accessible from anywhere with Internet access.

During the 2014-2015 school year Montgomery County Schools implemented a one-to-one initiative with HP Chromebooks for students and teachers in grades 5-12. Chromebooks were also placed at each elementary school in grades 3 and 4. Students in grades 5-12 had the option of taking home their Chromebook with parental permission. Students who did not choose to take them home became day users with access to a Chromebook at school. This significantly reduced the computer to student ratio at the intermediate, middle and high schools. However, the Chromebooks are due to be returned to the lease company in late December 2017. Because the lease is ending, this fall, the Chromebooks were not distributed to the students and have instead been distributed to the schools to use as classroom sets. The district is exploring how to proceed with the next phases of implementation of Chromebooks or other devices.

The district continues to address the issue of aging devices with our goal being all classroom, instructional labs, and teacher instructional devices either meeting or exceeding the minimum specifications. We also recognize that soon the minimum standards will change and we must have plans in place for replacing instructional devices.

The schools and the district are acquiring peripherals to enhance their instructional program, (e.g., data projectors, interactive white boards and/or wireless slates, interactive projectors, student response systems, audio systems, etc.) As new construction in the district is taking place, classrooms are being equipped with

electronic projection. The district's vision is that eventually all classrooms will be equipped with interactive devices. All desktop and laptop devices in the district have Microsoft Office suite installed. HP Chromebooks use the Google for Education software. Instructional software purchased by the schools and the district are based on academic needs. Schools are also using Internet based software to address instructional and assessment needs.

Montgomery County Schools' Technology staff consists of one full time district technology specialist, two full time computer maintenance technicians, a 240-day district technology integration specialist and a technology program assistant who is shared with another department. Additionally, each school has a School Technology Coordinator. The STCs have additional responsibilities at the school and receive a small stipend for their STC duties. Each school has an active STLP with a head coach with most schools also having an assistant coach or a co-head coach.

Curriculum and Instructional Integration Goals

Goal 1

Increase the integration of technology in teaching in all classrooms.

Action Plan: Projects/Activities

Project/Activity	Instructional Outcome	Indicator	Timeline	Person(s) Responsible	Funding Source
1a The district will continue our subscription to a hosted web service which provides each teacher with their own online classroom	Promote online learning opportunities; increase school to home communication; Provide authentic purpose for writing	Number of teachers using their online classrooms will increase as evidenced by access logs	Ongoing	Technology Department	KETS
1b The district will continue use of the BrightBytes Clarity survey for administrators, teachers, students and parents.	Provide data in the areas of classroom, access, skills and environment to improve the impact of technology on learning outcomes.	Students and teachers will progress in the areas assessed by the Clarity survey from the March 2015 baseline.	November 2017	Assessment Technology Department Principals	KETS
1b The district and schools will complete implementation and/or upgrade of intelligent classrooms in all schools	Students will maintain a higher level of time-on-task increasing student achievement	Technology Readiness Survey	Ongoing	Superintendent Technology Department Principals	General Fund/KETS School Funds
1c KySTE conference	Teachers will use technology tools in instruction	Increased use of technology as evidenced by lesson plans and student work	March 2018	Technology Department	KETS Professional Development Funds School Funds
1d The district will	Enable teachers to	Software usage	Ongoing	Technology	General Funds

Project/Activity	Instructional Outcome	Indicator	Timeline	Person(s) Responsible	Funding Source
maintain and add to the software and online services for instructional and assessment use	provide varied and individualized instruction for increased student achievement	reports, state and district assessment data		Department District and School Administration	School Funds KETS
1e Increase the use of Google for Education for staff	Increase productivity by enabling staff access to their resources from anywhere; increase collaboration	Google reporting; staff survey; BrightBytes Clarity reporting	Ongoing	Technology Department	None needed
1f Assist curriculum coaches in the use of instructional technology	Increase the integration of technology in instruction	Reports from Bright Bytes Clarity; technology skills as part of common core are addressed as indicated in lesson plans	Ongoing	District and School Administration	None needed

Goal 2

Increase student access to technology

Action Plan: Projects/Activities

Project/Activity	Instructional Outcome	Indicator	Timeline	Person(s) Responsible	Funding Source
2a The district will explore the financial feasibility of the continued use of Chromebooks for grades 5-12 (District policy in place)	Increased access for students during the instructional day	Reports from Google for Education; Reports from BrightBytes Clarity	Ongoing	Technology Department	KETS, General Funds
2b The district will	Increased access for	Reports from	Ongoing	Technology	KETS, General Funds

Project/Activity	Instructional Outcome	Indicator	Timeline	Person(s) Responsible	Funding Source
explore the possibility of increasing the number of Chromebooks and/or tablets available for K-4 students	students during the instructional day	BrightBytes Clarity; anecdotal information from teachers in grades K-4		Department	School Funds

Curriculum and Instructional Integration Goals – Evaluation

Teachers will update lesson plans and curriculum maps showing integration of technology to improve student achievement. All lessons will be aligned with the Kentucky Core Academic Standards and goals for College/Career Readiness. Effectiveness of the lessons will be evaluated during weekly Professional Learning Community meetings and student work.

Student Technology Literacy Goals

Link to the Kentucky Core Academic Standards:

<http://education.ky.gov/curriculum/docs/Pages/Kentucky-Core-Academic-Standards---NEW.aspx>

Goal 1

Students demonstrate their level of technology literacy

Action Plan: Strategies/Activities

Strategy/Activity	Instructional Outcome	Indicator	Timeline	Person(s) Responsible	Funding Source
1a Assess students in grades 5, 8 and 12 using Learning.com's TechLiteracy Assessment	All grade spans will be able to tailor instruction to meet the technology literacy needs of their students	Students meet or exceed grade span proficiency standard	March 2018	Instructional Supervisor District Technology Integration Specialist School Testing Coordinators	\$3500 (KETS)

Goal 2

Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.

Action Plan: Strategies/Activities

Strategy/Activity	Instructional Outcome	Indicator	Timeline	Person(s) Responsible	Funding Source
2a Teachers will increase their use of technology	Students will gain technology skills	Increased number of students who meet and/or exceed proficiency standard on Learning.com's TechLiteracy Assessment; BrightBytes Clarity	Ongoing	Instructional Supervisor District Technology Integration Specialist School Testing Coordinators	No additional funds needed

		reporting			
Each grade level will be responsible for teaching at least one i-SAFE lesson on digital citizenship	Students will increase their level of understanding of digital responsibilities and internet safety	100% completion rate	Ongoing	Principals District Technology Integration Specialist	KETS for i-SAFE curriculum

Student Technology Literacy Goals – Evaluation

Students will be evaluated using the TechLiteracy Assessment in the fifth, eighth and twelfth grades. Evaluation of the fifth grade students will develop a baseline for the students. This baseline will enable informed planning to ensure students develop and master the technology literacy skills at 8th grade. Assessment at the twelfth grade will allow the district to evaluate the effectiveness of instruction during high school. Information from the assessment will be used to make adjustments to lesson plans, curriculum maps, course offerings, etc. The data will be shared with each of the schools and the district. Students will take the BrightBytes Clarity survey at least once per year to evaluate the student use of the 4Cs: communication, collaboration, creativity and critical thinking; data will also be collected on student digital citizenship.

Staff Training/ Professional Development Goals

Goal 1

By September 2016, 100% of teachers will effectively integrate technology into the curriculum to enhance student learning based on evaluations.

Action Plan: Strategies/Activities

Strategy/Activity	Instructional Outcome	Indicator	Timeline	Person(s) Responsible	Funding Source
1a Maintain the district technology integration specialist	Provide teachers with the support needed to gain the skills and confidence necessary to effectively integrate technology in their classroom	Lesson plans and student work	Annually	Supt/Board	General Funds
1b Align technology training to increase proficiency for certified staff	Increase teachers ability to successfully integrate technology into their curriculum	Lesson plans and student work	Ongoing	Technology Department Technology Integration Specialist	No additional funds needed
1c The district will provide the staff with one-on-one support and training to ensure effective integration of technology.	Improve capacity of all teachers to effectively integrate technology into curriculum and instruction	Lesson plans and student work	Ongoing	Technology Integration Specialist PLC Curriculum Coaches KySTE Attendees	No additional funds needed

Staff Training/Professional Development Goals – Evaluation

The district technology staff will conduct regular in-house training opportunities. Funding will be allocated for the technology staff to attend KySTE.

Assessment data, lesson plans and curriculum maps, student work and district formative and summative assessment data will be used to evaluate the effectiveness.

Teachers will also participate in the BrightBytes Clarity survey to determine the level of teacher use of the 4Cs: communication, collaboration, creativity and critical thinking; data will also be collected on teacher digital citizenship.

Information from the BrightBytes Clarity survey given in November 2015 and November 2016 will be used to develop professional learning opportunities.

Technology Goals

Montgomery County Schools will maintain a healthy stable network and ensure all teachers have the resources, knowledge and expertise to utilize cutting edge technology to enhance and promote student learning.

Goal 1

Maintain and upgrade a state-of-the-art network infrastructure to provide global communications and information literacy for schools and administration with sufficient technical support to extend, further develop and keep the network operational.

Action Plan: Strategies/Activities

Strategy/Activity	Instructional Outcome	Indicator	Timeline	Person(s) Responsible	Funding Source
1a Promote/strengthen communication between school/home/community through the use of district resources (i.e. district and school web sites, Teacher Web Sites, email, and phone/fax systems).	Strengthened communications between home and school will result in decreased parent/student frustration; increase student achievement, and increase community awareness of school projects/programs.	Logs of traffic to web sites Survey of parents about new web site Logs of teacher web sites	Ongoing	Technology Staff School and district webmasters Principals Teachers	General funds/KETS
1b The district will maintain and expand the district data network/local and long distance telephone service/cellular service; upgrade and/or implement on premise Voice Over IP school phone systems	Promote continual improvement of the educational technology program	Teachers able to communicate with parents; key personnel with cell phones are able to make and receive calls	Ongoing	Technology Staff	General Funds/KETS Eligible e-rate items listed under this technology component will be funded accordingly

Strategy/Activity	Instructional Outcome	Indicator	Timeline	Person(s) Responsible	Funding Source
1c The district will maintain high speed connectivity to all schools	Increased speed between schools and district resources	Record of network usage	2017-2018	Technology Staff	General Funds/KETS Eligible e-rate items listed under this technology component will be funded accordingly
1d The district will upgrade switches at the schools to provide increased bandwidth	Increased speed in the schools	Network usage reports	Ongoing	Technology Staff	General Funds/KETS Eligible e-rate items listed under this technology component will be funded accordingly
1e The district will upgrade the wireless access points and increase the number of wireless access points at the intermediate school to provide increased coverage and density of coverage	Devices accessing the wireless will operate	Network usage reports	Ongoing	Technology Staff	General Funds/KETS Eligible e-rate items listed under this technology component will be funded accordingly
1f The district will maintain and continually update the district hardware inventory to assess and prioritize equipment needs.	Information from the inventory will allow equipment needs to be evaluated.	Technology Readiness Survey	Ongoing	Technology Staff	No additional funds
1g The district will replace and/or upgrade network servers, as needed.	Provide stability and reliability of the district network resources	Work reports reflect minimal to no downtime of server resources	Ongoing	Technology Staff	KETS/General Funds
1h The district will strive to	Decrease teacher	Hardware inventory	July 2017-July 2018	Technology Staff	KETS/General Funds

Strategy/Activity	Instructional Outcome	Indicator	Timeline	Person(s) Responsible	Funding Source
upgrade/replace student, lab and teacher workstations that fall below the state minimum standards	and student frustration; provide increased reliability; increase effective use of instructional time; provide increased use of multimedia equipment in the classroom; increase the use of software to meet individual student needs	and Technology Readiness Survey			
1i The district will maintain appropriate support and service agreements on hardware and software	Ensure less down time for hardware and software; provide software specific technical support	Budget records reflect support and agreements have been paid and/or money has been encumbered	Ongoing	Technology Staff	General Funds
1j The district will maintain technology staffing positions to support the increase of network traffic, hardware in intelligent classrooms, increase of work orders, etc.	Decrease workstation downtime; increase the reliability of network resources;	Work orders reflect timely completion Record of network usage	Ongoing	Technology Department	General Funds
1k The district will assess and make	Decrease downtime of programs,	Work orders and information from	Ongoing	Technology Department	General Funds School Funds

Strategy/Activity	Instructional Outcome	Indicator	Timeline	Person(s) Responsible	Funding Source
recommendations to the schools for the connectivity needs of workstations, especially in labs, based on the software being used (will wireless meet the demands or do the workstations need to be wired)	decrease student and teacher frustration, increase the reliability of the software	students and teachers			

Technology Goals – Evaluation

The technology plan will be evaluated again in March. Our district is making many curricular and instructional changes to ensure that our students meet and exceed state and national standards. The district technology plan will be adjusted to ensure that it reflects those changes. The district technology staff will use student/staff surveys, work order logs and the technology inventory to evaluate equipment needs and effectiveness.

School Year: 2017-2018
Budget Summary Draft

Acquired Technologies and Professional Development	Ed Tech Competitive Title IID	Ed Tech Formula Title IID	E-Rate	NCLB/other than Title IID	KETS	Other (Specify)	
Web Hosting and Online Classrooms					\$5,000.00		
Professional Development					\$600.00	\$76,470.00	District Technology Funds
Technology Staffing						\$316,660	District Technology Funds
21 st Century Student Technology Skills Assessment					\$3,500.00		
BrightBytes Clarity Survey					\$4,086.56		
Software and Online Services						\$140,000.00	District Technology Funds; School Funds; Grants; Department Technology Funds
Teacher Workstation Lease					\$50,000.00	\$24,966.98	District wide Instruction; General Funds
Hardware					\$108,200.00	\$85,000.00	District Technology Funds; School Funds; Grants; Department Technology Funds
Switched Ethernet Connections			\$45,936.00			\$11,484.00	General Fund; budgeted funds for each school/location
Telecommunications			\$41,062.37			\$61,593.55	General Fund; budgeted funds for each school/location
Voice Over IP			\$45,032.00			\$42,768.00	General Fund; budgeted funds for each school/location
TOTAL	\$ -	\$ -	\$ 132,030.37	\$ -	\$ 171,386.56	\$ 758,942.53	