

MORRIS CENTRAL SCHOOL DISTRICT



TECHNOLOGY PLAN 7/01/15-6/30/18

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Introduction

It is nothing new to assert that the world is changing rapidly and technology is leading the charge. Everyone is affected by this change- - students, parents, teachers and business. However, the basic need in education has not changed: providing our children with a quality education in a world where the amount of information available via the Internet doubles roughly every 22 months, is truly a challenge.

The Morris Central School District is located in the central region of New York State and has a school population of approximately 400 students in grades pk-12. Students are all housed in one building. The school is staffed by fifty-one faculty and three administrators. Considering the addition of the educational support staff, a total of approximately 115 employees makes the district the largest employer in the community. The size of the school gives its students and staff a very personal educational experience. For technology support, the district has a technology director and contracts through ONC BOCES for part-time technology technician.

Agriculture has been the backbone of the Morris community for decades. While still providing a strong economic basis, many district residents commute to work in Oneonta, Norwich, Cooperstown and Sidney. Even though the district is considered a poor district, with approximately 49% of the student population on free and reduced lunch status, the community is very supportive of the school. The community has passed the last thirteen school budgets and the district recently completed a 12.25 million dollar renovation and addition project.

Over the last several years, the Morris Central School District has taken steps to develop an up-to-date technological infrastructure that can support the use of instructional technologies in the classroom. The building network has been improved to current standards and classroom, lab and administrative desktop computers have been upgraded as well. The district has also worked diligently to develop the capacity of all teachers to be able to infuse technology as a means to teach their curriculum. To develop this capacity, each teacher has been provided with laptop computers and additional staff development opportunities have been created. Many classrooms have also been equipped with Smart Boards and projectors. A 1:1 iPad program in grades 5-9 has been initiated as well. This plan focuses on the effective use of this technology to improve student learning and to help reach students with a variety of learning styles.

Necessary basic skills provide students with the tools they need to be successful in today's technological workplace. However, it is not sufficient to teach these skills in isolation. The MCS Technology Plan adopts Instructional Technology Standards that are articulated into curriculum development at all

levels. In this way, the important connection between basic skills and technology is maintained.

Any successful implementation of new technologies within the district relies on professional development, as well as support and promotion that are also addressed in the plan. Professional development will be focused on the outcomes of the curriculum development process. The acquisition, support and promotion of technology on campus will have this same focus; ultimately student achievement.

Finally, technology's power can be felt most strongly in its ability to improve both the quantity and quality of communication, collaboration and access to information. In keeping with the goals of the district Board of Education, this improved communication and community involvement, both inside and outside of the school itself are addressed in this plan.

Mission

The staff, students and community of the Morris Central School District will provide a learning atmosphere in which education is valued by all and through which all students will acquire self-respect and respect for others. The students will also develop the skills and knowledge necessary for future employment and effective citizenship in America and the world. Learning is a life-long, independent and cooperative endeavor.

Vision

As described in the overall mission of the Morris Central School District, the purpose of education is to have students acquire the skills and knowledge necessary for future employment and effective citizenship in America and the world. Therefore, every student has the opportunity to develop to their fullest potential. Technology is a mechanism for learning that expands our instructional range and is a vehicle that maximizes the aptitude of all district stakeholders.

It is the vision of the Morris Central School District that students embrace success through a student-centered, inquiry-based environment with the most current technology available to them. Technology and network tools increase dynamic and participatory learning in a way that fosters scholarship and the diffusion of information.

Principles that Govern Vision

- 1) Technology must facilitate a wide range of educational methodologies and compliment direct student-faculty and student-student interactions.
- 2) All members of the Morris Central School District must have sufficient access to technologies.
- 3) All members of the Morris Central School District must have appropriate training required to integrate all technological resources available to them.
- 4) The use of instructional technologies shall be actively encouraged, supported and accessed.
- 5) The Morris Central School District shall adopt a financial policy that supports the technology plan.
- 6) Decisions on best practices and use of funding involve participation from key stakeholders.

The plan will focus on four major initiatives, identified below:

- Student Learning-Standards
- Professional Development, Promotion and Support
- Communication, Collaboration and Access
- Infrastructure/Hardware/Software Maintenance and Acquisition

Assessment of Current Technology Resources

The technological needs of the district were assessed in two different ways.

First, the technology committee assessed the technology that is currently present in the district and looked at what the needs will be in the future. The committee assessed the current infrastructure, hardware, software and technical support in the district to develop goals for the future. In the difficult financial times that school districts currently are facing, and will continue to face, the committee felt it was still important not only to maintain the current technology in the district, but continue to infuse new technology into the classrooms and district. See attachment A for an inventory of our current technology resources.

The technology committee also had school staff complete a survey of their current technological skills (Attachment B). Using the results, goals were developed to meet faculty needs and to help teachers infuse technology into their curriculum to help students succeed.

Lastly, The International Society for Technology in Education has established standards and performance indicators for students, teachers and administrators (Attachment C). The staff at Morris Central School understand the importance of preparing our students to compete globally and the vital role these standards play in assisting our students prepare to compete with so many others in the world. Using these performance indicators, the committee developed benchmarks that they feel are important for the students of Morris Central School to be successful (Attachment D).

From the assessments and information gathered, the technology committee developed goals and objectives to help foster student and staff growth in technology. The following are goals and objectives that will help meet our four major initiatives and will assist in aligning our curriculum to the state and federal standards.

Goals

- 1) The district will provide interactive white boards, 1:1 iPads, multi-media resources and accessories into the instructional environment.
- 2) Provide content specific learning systems and student management data systems available in all classrooms and in all offices. All classrooms have access to online databases to enhance education.
- 3) Using district and BOCES staff, provide training/support on use of technological resources available in order to infuse technology throughout all academic areas. Also allow flexibility in use of time for technology training.
- 4) Implement the Curriculum Development Process; familiarize teachers with technology standards and benchmarks for their grade level and provide resources and support required for implementation.
- 5) Refresh outdated desktop workstations with upgraded units in administrative and instructional areas.
- 6) The students of Morris Central School will demonstrate proficiency in use of current technology to function effectively, both privately and professionally in the future.
- 7) The Technology Committee will revise and propose policies related to acceptable use, email accounts and software management.
- 8) Focus on communication to all district staff, Board of Education members and the community in order to communicate technology plan and benchmarks. The district will use technological resources as main line of communication.
- 9) Leverage the use of state and federal grants. Dedicate the use of BOCES, capital and Title aid to technology budget lines and to maximize BOCES revenue.
- 10) Use the District Technology planning process as a guide to assess the district technology plan on an annual basis.
- 11) Increase the use of 21st century skills to improve critical thinking, problems solving, collaboration and communication skills.

Action Plan to Meet Goals

Action Plan			
Goal #1- The district will provide interactive white boards, 1:1 devices, multi-media resources and accessories in classroom.			
Actions needed to meet goal	Person(s) Responsible	Date to be Completed	Indication of Success
➤ Smart boards will be upgraded in every classroom.	➤ David Sander	➤ 6/18	
➤ iPads will be provided for all students in Grades 5-12	➤ David Sander	➤ 6/18	
➤ Sets of 3-5 iPads/Chromebooks will be provided for grades k-4	➤ David Sander	➤ 6/18	
➤ Maintain or increase use of Distance Learning Lab	➤ Kathy Smith	➤ 6/18	
➤ Investigate ways to increase use of Distance Learning to expand instruction and learning outside of the classrooms walls.	➤ Kathy Smith	➤ 6/18	
➤ Apple TVs or a mirroring device will be provided for each teacher with iPads	➤ David Sander	➤ 6/18	

Action Plan			
Goal #2- Provide content specific learning systems and student data management systems available in all classrooms and in all offices. All classrooms have access to online databases to enhance education.			
Actions needed to meet goal	Person(s) Responsible	Date to be Completed	Indication of Success
➤ Maintain current student learning subscriptions, ie. Fast Math, IXL, Castle Learning, Buzz	➤ David Sander ➤ Kris Hand	➤ 6/18	
➤ Maintain current student management data systems, ie. Powerschool, Cleartrack, STAR.	➤ Matt Sheldon	➤ 6/18	
➤ Maintain and/or expand online databases	➤ Emily Kirsch	➤ 6/18	
➤ Increase content specific software.	➤ Kathy Smith	➤ 6/18	

Action Plan			
Goal #3: Using district and BOCES staff, provide training/support on use of technological resources available in order to infuse technology throughout all academic areas. Also allow flexibility in use of time for technology training.			
Actions needed to meet goal	Person(s) Responsible	Date to be Completed	Indication of Success
➤ Provide summer opportunities for technology training.	➤ David Sander ➤ BOCES staff	➤ 6/18	
➤ Provide ongoing support to teachers in using technology in their classrooms.	➤ David Sander ➤ BOCES staff	➤ 6/18	
➤ Provide opportunities for staff to attend conferences related to technology	➤ Kathy Smith	➤ 6/18	
➤ Provide release	➤ Matt Sheldon	➤ 6/18	

<p>time for teachers to attend technology training.</p> <ul style="list-style-type: none"> ➤ Purchase BOCES technical support 2 days/week to assist in meeting staff needs. ➤ Provide training on use of online research resources: i.e. databases, e-books, reference resources. 	<ul style="list-style-type: none"> ➤ Matt Sheldon ➤ Emily Kirsch 	<ul style="list-style-type: none"> ➤ 6/18 ➤ 6/18 	
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Action Plan			
Goal #4- Implement the Curriculum Development Process; familiarize teachers with technology standards and benchmarks for their grade level and provide resources and support required for implementation.			
Actions needed to meet goal	Person(s) Responsible	Date to be Completed	Indication of Success
<ul style="list-style-type: none"> ➤ Hold scheduled faculty meetings to communicate national and state technology standards/ benchmarks. ➤ Provide ongoing workshops/ technical support for implementation of standards in classrooms. 	<ul style="list-style-type: none"> ➤ David Sander ➤ Kathy Smith ➤ David Sander ➤ Kathy Smith ➤ BOCES staff 	<ul style="list-style-type: none"> ➤ 6/18 ➤ 6/18 	

Action Plan			
Goal #5- Refresh outdated desktop and laptop workstations with upgraded units in administrative and instructional areas.			
Actions needed to meet goal	Person(s) Responsible	Date to be Completed	Indication of Success
<ul style="list-style-type: none"> ➤ Replace 12 teachers' laptops on a yearly basis. ➤ Replace all administrative computers on a 4-year basis. 	<ul style="list-style-type: none"> ➤ Matt Sheldon ➤ David Sander ➤ Matt Sheldon ➤ David Sander 	<ul style="list-style-type: none"> ➤ 6/18 ➤ 6/18 	

➤ Replace 12 student work-stations on a 5 year replacement schedule.	➤ Matt Sheldon ➤ David Sander	➤ 6/18	
➤ Maintain service closet.	➤ David Sander ➤ BOCES Staff ➤ Jeff Landry	➤ 6/18	

Action Plan

Goal #6- The students of Morris Central School will demonstrate proficiency in use of current technology to function effectively, both privately and professionally in the future.

Actions needed to meet goal	Person(s) Responsible	Date to be Completed	Indication of Success
➤ Students will reach benchmarks set of each grade level.	➤ Teachers ➤ David Sander ➤ Kathy Smith	➤ 6/18	
➤ The district will investigate providing instructional time at the high school level to students in computer/ technology skills.	➤ Matt Sheldon	➤ 6/18	
➤ A technology club will be formed to provide opportunities to students in use of technology.	➤ David Sander ➤ BOCES Staff	➤ 6/17	
➤ Increase number of technology classes available to students (coding, computer apps...)	➤ David Sander ➤ Greg Thom	➤ 6/18	

Action Plan

Goal #7- The Technology Committee will revise and propose policies related to acceptable use, email accounts and software management.

Actions needed to meet goal	Person(s) Responsible	Date to be Completed	Indication of Success
➤ Technology committee will meet on an as needed basis and no less than a yearly basis to review policies and to review technology plan.	➤ Kathy Smith	➤ 6/18	
➤ Technology	➤ David Sander	➤ 6/18	

<p>director and administrative staff will keep abreast to current trends relating to technology.</p> <p>➤ Board of Education will approve any changes to technology policies.</p>	<p>➤ Kathy Smith</p> <p>➤ Matt Sheldon</p> <p>➤ Matt Sheldon</p> <p>➤ Board president</p>	<p>➤ 6/18</p>	
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Action Plan			
Goal #8- Focus on communication to all district staff, Board of Education Members and the community in order to communicate technology plan and benchmarks. The district will also use technological resources as main line of communication.			
Actions needed to meet goal	Person(s) Responsible	Date to be Completed	Indication of Success
➤ Use website or Google Classroom to post HW	➤ Kathy Smith	➤ 6/18	➤ All teachers currently use School Websites or Google Classroom
➤ Increase amount of information provided on website	➤ David Sander ➤ Matt Sheldon ➤ Emily Kirsch	➤ 6/18	
➤ Increase hits on district website to approximately 300 hits/day.	➤ Emily Kirsch ➤ Community members	➤ 6/18	➤ Approx. 200/day
➤ Increase number of teacher websites to 30.	➤ Kathy Smith ➤ Teachers	➤ 6/18	➤ Currently 25
➤ Increase student involvement in upkeep of school website.	➤ David Sander	➤ 6/18	
➤ Presentation to parent organization on technology plan.	➤ David Sander ➤ Matt Sheldon	➤ 6/16	
➤ Presentation to Board of Education on technology plan.	➤ David Sander ➤ Matt Sheldon	➤ 6/16	
➤ Implementation of new phone system and voicemail.	➤ David Sander ➤ Matt Sheldon	➤ 6/18	
➤ Maintain communication to parents via the	➤ Emily Kirsch	➤ 6/18	

<p>library webpage to help parents understand valuable research resources accessible from home.</p> <ul style="list-style-type: none"> ➤ Provide training to parents on use of available resources from home. 	<ul style="list-style-type: none"> ➤ Emily Kirsch ➤ David Sander 	<ul style="list-style-type: none"> ➤ 6/18 	
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Action Plan			
Goal #9- Leverage the use of state and federal grants. Dedicate the use of BOCES, capital and Title aid to technology budget lines and to maximize BOCES revenue.			
Actions needed to meet goal	Person(s) Responsible	Date to be Completed	Indication of Success
<ul style="list-style-type: none"> ➤ Use all state-aided software and hardware money. 	<ul style="list-style-type: none"> ➤ David Sander ➤ Kris Hand 	<ul style="list-style-type: none"> ➤ 6/18 	<ul style="list-style-type: none"> ➤ Currently use all funds.
<ul style="list-style-type: none"> ➤ Maintain current IPA purchasing program with BOCES. 	<ul style="list-style-type: none"> ➤ Matt Sheldon ➤ Kris Hand 	<ul style="list-style-type: none"> ➤ 6/18 	
<ul style="list-style-type: none"> ➤ Continue to use various federal and state revenue sources to provide for technology needs. 	<ul style="list-style-type: none"> ➤ Kris Hand ➤ Matt Sheldon ➤ David Sander 	<ul style="list-style-type: none"> ➤ 6/18 	
<ul style="list-style-type: none"> ➤ Maintain and/or increase amount of funds provide through district discretionary budget towards technology needs. 	<ul style="list-style-type: none"> ➤ Matt Sheldon ➤ BOE 	<ul style="list-style-type: none"> ➤ 6/18 	
<ul style="list-style-type: none"> ➤ Continue to purchase software/ hardware needs through BOCES to maximize aid. 	<ul style="list-style-type: none"> ➤ Kris Hand ➤ Matt Sheldon ➤ David Sander 	<ul style="list-style-type: none"> ➤ 6/18 	

Action Plan			
Goal #10- Use the District Technology planning process as a guide to assess the district technology plan on an annual basis.			
Actions needed to meet goal	Person(s) Responsible	Date to be Completed	Indication of Success
<ul style="list-style-type: none"> ➤ Have district 	<ul style="list-style-type: none"> ➤ Matt Sheldon 	<ul style="list-style-type: none"> ➤ 6/18 	

<ul style="list-style-type: none"> representatives attend NYSCATE conference on an annual basis. ➤ Hold technology committee meetings on an as needed basis and no less than on an annual basis. ➤ Implement staff survey assessment. ➤ Evaluate and update technology plan on an annual basis. 	<ul style="list-style-type: none"> ➤ Kathy Smith ➤ David Sander ➤ Matt Sheldon ➤ Phil Sheridan ➤ David Sander ➤ Matt Sheldon ➤ David Sander 	<ul style="list-style-type: none"> ➤ 6/18 ➤ 12/15 ➤ 6/18 	
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Action Plan			
Goal #11- Increase the use of 21st century skills to improve critical thinking, problems solving, collaboration and communication skills with the use of technology.			
Actions needed to meet goal	Person(s) Responsible	Date to be completed	Indication of success
<ul style="list-style-type: none"> ➤ Increase professional development with 21st century skills ➤ Increase use of technology by teachers 	<ul style="list-style-type: none"> ➤ David Sander ➤ Kathy Smith ➤ BOCES Staff ➤ David Sander ➤ Matt Sheldon 	<ul style="list-style-type: none"> 6/17 6/18 	

Technology Delivery

The Morris Central School District is a leader in the ONC BOCES in the use of the Distance Learning Lab to provide students with courses that we would not be able to deliver otherwise. Many of these classes are at the college level and students obtain college credits for successful completion of the courses. We are currently providing the following classes through the use of our DL lab:

- College English
- Accounting
- Pre-Calculus
- UA History
- Spanish IV
- College Sociology

The district has also used the Distance Learning Lab to provide students with a variety of other classes that a small district would financially not be able to support without the use of the DL lab. Classes in American Sign Language and GED classes are other examples.

The district is also in the process of examining on-line programs to help support student needs. Classes in SAT preparation is one example.

The staff also makes use of webinars and web conferences via Skype to develop skills and gain knowledge on how to increase student achievement. In the past, the number of teachers and staff that have been allowed to develop skills through the attendance at various workshops and conferences have been limited due to financial constraints. Having the ability to participate in webinars or other on-line collaborative sessions have opened up the possibilities for staff to increase their instructional skills and techniques.

Parental Communication & Community Relations

The technology plan will be communicated with district residents in a variety of ways. The plan will be presented at a Board of Education Meeting where input will be sought from the community. The technology plan will also be placed on the school website for the community to see and provide input. The plan will also be presented to the district's parent organization. With the inclusion of expected benchmarks at each grade level, teachers will also communicate with parents the progress that each student is making towards technology literacy.

The Morris Central School continues to be a leader in using technology to communicate with parents. The district has a website that provides a great deal of information to parents. The site provides parents and students with a homework-hotline, links to library research resources, an interactive sports schedule, information pertaining to various other opportunities to students and parents as well as the ability for parents to e-mail any staff member in the district. The district also has a parent portal that gives parents with students in 7th-12th grade the ability to view grades, completion of homework assignments and overall academic progress of their child. At the present time, approximately 50% of parents utilize the portal, with a goal of 90% participation.

The development of this plan was completed by the District Technology committee which involved representatives from the community, including parents. The intent of the plan is for it to be a working document and that the technology committee will meet on a regular basis to review and update the plan.

Collaboration

As stated earlier, the Morris Central School District has used the Distance Learning Lab in the past to provide a GED program to people in the community after school hours. It has also been used by area coaches to obtain certification in coaching. The district plans to continue utilizing the Distance Learning Lab not only during the school hours, but other times as well to provide opportunities for community members to increase their knowledge.

FUNDING AND BUDGET

The included 3-year budget follows the format provided by the district and includes all technology-related budgets. The budget lines approved for use by the Morris CSD Business Office are as follows:

Budget Title	Explanation
State-Aided Hardware (220)	Monetary amount provided by the state for approved hardware purchases
Local Purchase Hardware (Equipment (200)	Money requested to supplement state aided hardware and provide for life-cycle replacement
State Aided Software (460)	Monetary amount provided by the state for approved software purchases
Contractual (400)	Contracting outside vendors
District Travel (400)	Reimbursement for travel for district staff
Conference (400)	Professional conference fees/travel for district staff
General Supplies (450)	Cost of supplies for the department and district related to technology
Local-Software Purchases (460)	Recurring fees for software, hardware, maintenance licensing/support

Budget and Timetable

Budget Title	Current 14-15	2015-2016	2016-2017	2017-2018
State Aided Hardware	\$12,557	\$12,557	\$12,557	\$12,557
Local Purchase Hardware	\$1,200	\$1,200	\$1,200	\$1,200
State Aided Software	\$6,696	\$6,696	\$6,696	\$6,696
Contractual	\$3,762	\$3,925	\$4,095	\$4,273
District Travel	\$200	\$200	\$200	\$200
Conference	\$1,448	\$1,503	\$1,553	\$1,603
General Supplies	\$2,000	\$2,000	\$2,000	\$2,000
Local-Software Purchases	XXX	XXX	XXX	XXX

Morris Central School Technology Budget (Projected)

	2010-2011	2011-2012	2012-2013
ONC BOCES Staff Development	\$4,282	\$4,496	\$4,720
In-House Staff Development	\$3,704	\$3,889	\$4,083
BOCES Technician	\$21,155	\$22,212	\$23,322
Network Support	\$7,000	\$7,000	\$7,000
K-6 Computer Teacher	\$38,976	\$40,924	\$42,970
NYSCATE Conference (4 staff members)	\$1,103	\$1,153	\$1,203
Library Automation	\$2,829	\$2,971	\$3,119
Distance Learning	\$22,513	\$23,638	\$24,820
Model Schools (Hardware)	\$21,000	\$21,000	\$21,000
State Aided Hardware	\$11,674	\$12,257	\$12,869
State Aided Software	\$10,302	\$10,817	\$11,357
Regional Network (BT BOCES) (Includes Powerschool & Cleartrack)	\$48,739	\$51,175	\$53,733

Acceptable Use Policy

The Morris Central School Board of Education has adopted policies for the acceptable use by staff and students of computerized information resources. Below are the two board policies.

2007 6470

1 of 2

Personnel

SUBJECT: STAFF USE OF COMPUTERIZED INFORMATION RESOURCES

The Board of Education will provide staff with access to various computerized information resources through the District's computer system (DCS hereafter) consisting of software, hardware, computer networks and electronic communication systems. This may include access to electronic mail, so-called "on-line services" and the "Internet." It may also include the opportunity for some staff to have independent access to the DCS from their home or other remote locations. All use of the DCS, including independent use off school premises, shall be subject to this policy and accompanying regulations.

The Board encourages staff to make use of the DCS to explore educational topics, conduct research and contact others in the educational world. The Board anticipates that staff access to various computerized information resources will both expedite and enhance the performance of tasks associated with their positions and assignments. Toward that end, the Board directs the Superintendent or his/her designee(s) to provide staff with training in the proper and effective use of the DCS.

Staff use of the DCS is conditioned upon written agreement by the staff member that use of the DCS will conform to the requirements of this policy and any regulations adopted to ensure acceptable use of the DCS. All such agreements shall be kept on file in the District office.

Generally, the same standards of acceptable staff conduct which apply to any aspect of job performance shall apply to use of the DCS. Employees are expected to communicate in a professional manner consistent with applicable

District policies and regulations governing the behavior of school staff. Electronic mail and telecommunications are not to be utilized to share confidential information about students or other employees.

This policy does not attempt to articulate all required and/or acceptable uses of the DCS; nor is it the intention of this policy to define all inappropriate usage. Administrative regulations will further define general guidelines of appropriate staff conduct and use as well as proscribed behavior.

District staff shall also adhere to the laws, policies and rules governing computers including, but not limited to, copyright laws, rights of software publishers, license agreements, and rights of privacy created by federal and state law.

Staff members who engage in unacceptable use may lose access to the DCS and may be subject to further discipline under the law and in accordance with applicable collective bargaining agreements. Legal action may be initiated against a staff member who willfully, maliciously or unlawfully damages or destroys property of the District.

Privacy Rights

Staff data files and electronic storage areas shall remain District property, subject to District control and inspection. The computer coordinator may access all such files and communications to ensure system integrity and that users are complying with requirements of this policy and accompanying regulations. Staff should **NOT** expect that information stored on the DCS will be private.

Implementation

Administrative regulations will be developed to implement the terms of this policy, addressing general parameters of acceptable staff conduct as well as prohibited activities so as to provide appropriate guidelines for employee use of the DCS.

NOTE: Refer also to Policy #8271 -- The Children's Internet Protection Act: Internet Content Filtering/Safety Policy

**SUBJECT: STUDENT USE OF COMPUTERIZED INFORMATION RESOURCES
(ACCEPTABLE USE POLICY)**

The Board of Education will provide access to various computerized information resources through the District's computer system ("DCS" hereafter) consisting of software, hardware, computer networks and electronic communications systems. This may include access to electronic mail, so-called "on-line services" and the "Internet." It may include the opportunity for some students to have independent access to the DCS from their home or other remote locations. All use of the DCS, including independent use off school premises, shall be subject to this policy and accompanying regulations. Further, all such use must be in support of education and/or research and consistent with the goals and purposes of the School District.

One purpose of this policy is to provide notice to students and parents/guardians that, unlike most traditional instructional or library media materials, the DCS will allow student access to external computer networks not controlled by the School District where it is impossible for the District to screen or review all of the available materials. Some of the available materials may be deemed unsuitable by parents/guardians for student use or access. This policy is intended to establish general guidelines for acceptable student use. However, despite the existence of such District policy and accompanying guidelines and regulations, it will not be possible to completely prevent access to computerized information that is inappropriate for students. Furthermore, students may have the ability to access such information from their home or other locations off school premises. Parents/guardians of students must be willing to set and convey standards for appropriate and acceptable use to their children when using the DCS or any other electronic media or communications.

Standards of Acceptable Use

Generally, the same standards of acceptable student conduct which apply to any school activity shall apply to use of the DCS. This policy does not attempt

to articulate all required and/or acceptable uses of the DCS; nor is it the intention of this policy to define all inappropriate usage. Administrative regulations will further define general guidelines of appropriate student conduct and use as well as proscribed behavior.

District students shall also adhere to the laws, policies and rules governing computers including, but not limited to, copyright laws, rights of software publishers, license agreements, and student rights of privacy created by federal and state law.

Students who engage in unacceptable use may lose access to the DCS in accordance with applicable due process procedures, and may be subject to further discipline under the District's school conduct and discipline policy and the District Code of Conduct. The District reserves the right to pursue legal action against a student who willfully, maliciously or unlawfully damages or destroys property of the District. Further, the District may bring suit in civil court against the parents/guardians of any student who willfully, maliciously or unlawfully damages or destroys District property pursuant to General Obligations Law Section 3-112.

Student data files and other electronic storage areas will be treated like school lockers. This means that such areas shall be considered to be School District property subject to control and inspection. The computer coordinator may access all such files and communications to ensure system integrity and that users are complying with the requirements of this policy and accompanying regulations. Students should **NOT** expect that information stored on the DCS will be private.

Notification/Authorization

The District's Acceptable Use Policy and Regulations will be disseminated to parents and students in order to provide notice of the school's requirements, expectations, and students' obligations when accessing the DCS. Student use of the DCS is conditioned upon written agreement by all students and their parents/guardians that student use of the DCS will conform to the requirements of this policy and any regulations adopted to ensure acceptable use of the DCS. All such agreements shall be kept on file in the District Office.

Regulations will be established as necessary to implement the terms of this policy.

NOTE: Refer also to Policy #8271 -- The Children's Internet Protection Act: Internet Content

Filtering/Safety Policy

ATTACHMENT

A

Current Inventory of Technology Resources in District

<i>Teacher</i>	<i>Equipment</i>	<i>Quantity</i>
<i>Baker-Low</i>	Fiddlehead Unit	1
	Dell Optiplex 960	1
	Inspiron 131L Laptop	1
<i>Berryment</i>	Smartboard 660	1
	Hitachi A100	1
	Latitude 131L	1
<i>Bechtold</i>	Smartboard 660	1
	NEC Projector	1
	Dell Latitude E6400	1
<i>Brown</i>	Fiddlehead Cluster	1
	Dell Optiplex 960	1
	Dell Latitude 131L	1
	HP Laserjet 1200	1
<i>Bourgeois</i>	Dell Latitude 131L	1
<i>Deysenroth</i>	Dell Optiplex 760	1
<i>D. Ernst</i>	Inspiron 131L Laptop	1
	Inspiron 131L Laptop	1
<i>Ciampo</i>	Smartboard 660	1
	Hitachi A100	1
	Dell Latitude 131L	1
<i>Gorman</i>	Smartboard 660	1
	Dell Inspiron 400(old)	1
	Dell Latitude	1
	Hitachi A100	1
	Dell Optiplex G50	6
	Lumens DC260	1

	Camera	
	Vernier Probes	10
<i>Graig</i>	Fiddlehead Cluster	1
	Optiplex 960	1
	Dell Latitude 131L	1
<i>Harmer</i>	Smartboard 660	1
	Infocus Projector	1
	Inspiron 131L Laptop	1
<i>Hough</i>	Smartboard 660	1
	Latitude E6400	1
	Qwizdom Q5 (24set)	1
<i>Jacobsen</i>	Dell Optiplex 760	1
<i>Krivot</i>	Smartboard 660	1
	Mitsubishi Projector	1
	Dell Latitude 131L	1
	Qwizdom Q5 (24set)	1
<i>Maerz</i>	Dell Latitude 131L	1
<i>Miller</i>	Smartboard 660	1
	NEC Projector	1
	Qwizdom Q5 (24 set)	1
	Latitude E6400	1
<i>Mix</i>	Smartboard 660	1
	Latitude E6400	1
	NEC Projector	1
<i>Montreil</i>	Dell Latitude 131L	1
<i>Moskal</i>	Dell Latitude 131L	1
<i>Moussa</i>	IPM Whiteboard	1
	Mitsubishi Projector	1
	Dell Latitude 131L	1
<i>Norman</i>	Dell Latitude 131L	1

Packard	NEC Projector	1
	HP LaserJet 1505n	1
	Lumens DC260 Camera	1
	Dell Latitude	1
	Smart Airliner	1
	Dell Desktop X13	9
Pepe	Smartboard 660	1
	NEC Projector	1
	Dell Latitude E6400	1
	Qwizdom Q5 (24 set)	1
Payne	Dell Latitude 131L	1
	Qwizdom Q5 (24 set)	1
Robertson	Smartboard 660	1
	Hitachi A100	1
	Dell Latitude E6400	1
	Lumens DC260 Camera	1
	Dell Optiplex GX50	6
Amy Robertson	Smartboard 660	1
	Hitachi A100	1
	Dell Inspiron Laptop	1
Sacca	Smartboard 660	1
	Hitachi A100	1
	Dell Latitude E6400	1
Sander	IPM Whiteboard	1
	Infocus Projector	1
	Dell Latitude E6400	1
	Qwizdom Q5 (24 set)	1
Sperling	NEC Projector	1

	Latitude 131L	1
	Color Printer	1
<i>Shumway</i>	Fiddlehead Cluster	1
	Dell Optiplex 960	1
	HP Laserjet 1200	1
<i>Straub</i>	Smartboard 660	1
	Hitachi A100	1
	NEC Projector	1
	Dell Latitude 131L	1
	Optiplex 755	8
	Lumens DC260 Camera	1
<i>Telfer</i>	Dell Latitude 131L	1
	Smartboard 660	1
	Hitachi A100	1
	Qwizdom Q5 (24 set)	1
<i>Thom</i>	Latitude 131L	1
	Hitachi A100	1
	Smartboard 660	1
<i>Trimble</i>	Dell Latitude 131L	1
	Fiddlehead Cluster	1
	Dell Optiplex 960	1
	Dell Optiplex GX50	2
	HP Laserjet 1200	1
<i>Velez</i>	Dell Latitude 131L	1
<i>Vunk</i>	Fiddlehead Cluster	1
	Dell Optiplex 960	1
	Dell Latitude 131L	1
<i>Waffle</i>	Smartboard 660	1

	Hitachi A100	1
	Fiddlehead Cluster	3
	Optiplex 960	3
	Hp colorjet 4700	1
	Cannon Scanner 8800F	1
<i>Walling</i>	Smartboard 660	1
	NEC Projector	1
	Dell Latitude E6400	1
<i>Wilson</i>	Dell Latitude 131L	1

ATTACHMENT B

Teacher Technology Proficiency Survey

[Exit this survey](#)

1. Default Section

1. Legal and ethical use

- Legal and ethical use I am aware of legal and ethical issues surrounding computer use.
- I have read the districts Acceptable Use Policy.
- I understand the difference between freeware, shareware and commercial software. I understand the ethical uses of all these types of software.

2. Basic Computer Operation

- Basic Computer Operation I do not use a computer.
- I can use the computer to open and run a few specific, pre-loaded programs.
- I can hook up a computer, customize the look and sounds, load software and print. I can run two programs simultaneously. I can use usb memory drives and cd-roms.
- I can hook up peripheral devices. I look for programs and techniques to maximize efficient use of my computer. I feel confident enough to teach others some basic operations.

3. File Management

- File Management I do not save any documents I create using the computer.
- I save documents I've created but I cannot choose where they are saved. I do not back up my files.

I have created a system of folders for organizing my files and can locate files quickly and reliably. I can copy and move files between drives. I understand file size/properties and appropriate options for saving.

I regularly archive and delete files.

4. Network Use

Network Use I have no experience with a networked environment.

I can login to the network, change my password and locate files kept on network drives.

I understand the use and limitations of networked drives for accessing applications and sharing files.

I collaborate with colleagues using shared files on the network.

5. Word Processing

Word Processing I do not use a word processing program.

I occasionally use word processing for simple documents. I generally find it easier to hand write or use a typewriter for most written work.

I use word processing for my written professional work. I can edit, spell check and change the format of a document. I use it for creating written work.

I use a variety of word processing tools and programs for part of the creative teaching/learning process (ex. Tables, charts, templates, and publishing)

6. Spreadsheet Use

Spreadsheet Use I do not use a spreadsheet.

I understand the use of a spreadsheet and can navigate within one. I can create a simple spreadsheet with multiple columns of data.

I can create spreadsheets using labels and formulas with cell references. I use a variety of features including: fill down, graphing and data importing. I use it with others to improve their data keeping and analysis skills.

I use the full array of spreadsheet features for statistical analysis and computation.

7. Graphics Use

- Graphics Use I do not use graphics in my word processing or presentations.
- I can open, create and place simple pictures into documents using painting or drawing programs.
- I can modify, format and place graphics into documents. I promote the appropriate use of graphics to help others clarify or amplify their message.
- I can manipulate and interpret graphics using image processing software (ex. Photoshop or Google Sketchup)for the purpose of design or anaylsis.

8. Search Strategies

- Search Strategies I am unlikely to seek information when it is in electronic formats.
- I can conduct simple searches.
- I can successfully assist others in developing search strategies. I am aware of the differences between .com,.gov,.edu and other domain name endings. I am able to filter through search results and pick the most reliable sites.

9. Web Use and Other Electronic Resources

- Web Use and Other Electronic Resources I do not use the web or other electronic resources.
- I can use a web browser to find basic information.
- I use bookmarked websites appropriate to what I am teaching.
- I can create and publish a web page for myself and others.

10. Smartboard Use:

- Smartboard Use: I don't have a smartboard or any use for one.
- I don't have a smartboard but would like to learn how to use one.
- I have a smartboard and use it a few times per week for specific lessons.
- I have a smartboard and use it all the time no matter what I am teaching.
- I use my Smartboard all the time and know of other Smart products available for the classroom (ex. Smart Tables).

Teacher Technology Survey Results

1.) Legal and Ethical use	
a. Highly Proficient	13.20%
b. Average Proficiency	65.80%
c. Low Proficiency	21.00%
2.) Basic Computer Operation	
a. Highly Proficient	43.60%
b. Average Proficiency	28.20%
c. Low Proficiency	28.20%
3.) File Management	
a. Highly Proficient	52.60%
b. Average Proficiency	23.70%
c. Low Proficiency	23.70%
4.) Network Use	
a. Highly Proficient	23.70%
b. Average Proficiency	63.00%
c. Low Proficiency	13.10%
5.) Word Processing	
a. Highly Proficient	57.90%
b. Average Proficiency	42.10%
c. Low Proficiency	0.00%
6.) Spreadsheet use	
a. Highly Proficient	7.90%

	b. Average Proficiency	60.50%
	c. Low Proficiency	31.60%
7.) Graphics use		
	a. Highly Proficient	15.80%
	b. Average Proficiency	68.40%
	c. Low Proficiency	15.80%
8.) Search Strategies		
	a. Highly Proficient	71.80%
	b. Average Proficiency	28.20%
	c. Low Proficiency	0.00%
9.) Web Usage and Other Electronic Resources		
	a. Highly Proficient	28.20%
	b. Average Proficiency	69.20%
	c. Low Proficiency	2.60%
10.) Smartboard use		
	a. Highly Proficient	8.20%
	b. Average Proficiency	40.50%
	c. Low Proficiency	51.30%

ATTACHMENT C

The ISTE National Educational Technology Standards (NETS•S) and Performance Indicators for Students

1. Creativity and Innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. Students:

- a. apply existing knowledge to generate new ideas, products, or processes.
- b. create original works as a means of personal or group expression.
- c. use models and simulations to explore complex systems and issues.
- d. identify trends and forecast possibilities.

2. Communication and Collaboration

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others. Students:

- a. interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.
- b. communicate information and ideas effectively to multiple audiences using a variety of media and formats.
- c. develop cultural understanding and global awareness by engaging with learners of other cultures.
- d. contribute to project teams to produce original works or solve problems.

3. Research and Information Fluency

Students apply digital tools to gather, evaluate, and use information.

Students:

- a. plan strategies to guide inquiry.
- b. locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
- c. evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
- d. process data and report results.

4. Critical Thinking, Problem Solving, and Decision Making

Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources. Students:

- a. identify and define authentic problems and significant questions for investigation.
- b. plan and manage activities to develop a solution or complete a project.
- c. collect and analyze data to identify solutions and/or make informed decisions.
- d. use multiple processes and diverse perspectives to explore alternative solutions.

5. Digital Citizenship

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior. Students:

- a. advocate and practice safe, legal, and responsible use of information and technology.
- b. exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
- c. demonstrate personal responsibility for lifelong learning.
- d. exhibit leadership for digital citizenship.

6. Technology Operations and Concepts

Students demonstrate a sound understanding of technology concepts, systems, and operations. Students:

- a. understand and use technology systems.
- b. select and use applications effectively and productively.
- c. troubleshoot systems and applications.
- d. transfer current knowledge to learning of new technologies.

The ISTE National Educational Technology Standards (NETS•T) and Performance Indicators for Teachers

Effective teachers model and apply the National Educational Technology Standards for Students (NETS•S) as they design, implement, and assess learning experiences to engage students and improve learning; enrich professional practice; and provide positive models for students, colleagues, and the community. All teachers should meet the following standards and performance indicators. Teachers:

1. Facilitate and Inspire Student Learning and Creativity

Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments.

Teachers:

- a. promote, support, and model creative and innovative thinking and inventiveness
- b. engage students in exploring real-world issues and solving authentic problems using digital tools and resources
- c. promote student reflection using collaborative tools to reveal and clarify students' conceptual understanding and thinking, planning, and creative processes
- d. model collaborative knowledge construction by engaging in learning with students, colleagues, and others in face-to-face and virtual environments

2. Design and Develop Digital-Age Learning Experiences and Assessments

Teachers design, develop, and evaluate authentic learning experiences and assessments incorporating contemporary tools and resources to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in the NETS•S. Teachers:

- a. design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity
- b. develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress
- c. customize and personalize learning activities to address students' diverse learning styles, working strategies, and abilities using digital tools and resources

d. provide students with multiple and varied formative and summative assessments aligned with content and technology standards and use resulting data to inform learning and teaching

3. Model Digital-Age Work and Learning

Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society. Teachers:

a. demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations

b. collaborate with students, peers, parents, and community members using digital tools and resources to support student success and innovation

c. communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital-age media and formats

d. model and facilitate effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning

4. Promote and Model Digital Citizenship and Responsibility

Teachers understand local and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices. Teachers:

a. advocate, model, and teach safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources

b. address the diverse needs of all learners by using learner-centered strategies and providing equitable access to appropriate digital tools and resources

c. promote and model digital etiquette and responsible social interactions related to the use of technology and information

d. develop and model cultural understanding and global awareness by engaging with colleagues and students of other cultures using digital-age communication and collaboration tools

5. Engage in Professional Growth and Leadership

Teachers continuously improve their professional practice, model lifelong learning, and exhibit leadership in their school and professional community by promoting and demonstrating the effective use of digital tools and resources. Teachers:

a. participate in local and global learning communities to explore creative applications of technology to improve student learning

b. exhibit leadership by demonstrating a vision of technology infusion, participating in shared decision making and community building, and developing the leadership and technology skills of others

c. evaluate and reflect on current research and professional practice on a regular basis to make effective use of existing and emerging digital tools and resources in support of student learning

d. contribute to the effectiveness, vitality, and self-renewal of the teaching profession and of their school and community

The ISTE National Educational Technology Standards (NETS•A) and Performance Indicators for Administrators

- 1. Visionary Leadership.** Educational Administrators inspire and lead development and implementation of a shared vision for comprehensive integration of technology to promote excellence and support transformation throughout the organization.
Educational Administrators:
 - a. inspire and facilitate among all stakeholders a shared vision of purposeful change that maximizes use of digital-age resources to meet and exceed learning goals, support effective instructional practice, and maximize performance of district and school leaders
 - b. engage in an ongoing process to develop, implement, and communicate technology-infused strategic plans aligned with a shared vision
 - c. advocate on local, state, and national levels for policies, programs, and funding to support implementation of a technology-infused vision and strategic plan

- 2. Digital-Age Learning Culture.** Educational Administrators create, promote, and sustain a dynamic, digital-age learning culture that provides a rigorous, relevant, and engaging education for all students. Educational Administrators:
 - a. ensure instructional innovation focused on continuous improvement of digital-age learning
 - b. model and promote the frequent and effective use of technology for learning
 - c. provide learner-centered environments equipped with technology and learning resources to meet the individual, diverse needs of all learners
 - d. ensure effective practice in the study of technology and its infusion across the curriculum
 - e. promote and participate in local, national, and global learning communities that stimulate innovation, creativity, and digital-age collaboration

- 3. Excellence in Professional Practice.** Educational Administrators promote an environment of professional learning and innovation that empowers educators to enhance student learning through the infusion of

contemporary technologies and digital resources. Educational Administrators:

- a. allocate time, resources, and access to ensure ongoing professional growth in technology fluency and integration
- b. facilitate and participate in learning communities that stimulate, nurture, and support administrators, faculty, and staff in the study and use of technology
- c. promote and model effective communication and collaboration among stakeholders using digital-age tools
- d. stay abreast of educational research and emerging trends regarding effective use of technology and encourage evaluation of new technologies for their potential to improve student learning

4. Systemic Improvement. Educational Administrators provide digital-age leadership and management to continuously improve the organization through the effective use of information and technology resources.

Educational Administrators:

- a. lead purposeful change to maximize the achievement of learning goals through the appropriate use of technology and media-rich resources
- b. collaborate to establish metrics, collect and analyze data, interpret results, and share findings to improve staff performance and student learning
- c. recruit and retain highly competent personnel who use technology creatively and proficiently to advance academic and operational goals
- d. establish and leverage strategic partnerships to support systemic improvement
- e. establish and maintain a robust infrastructure for technology including integrated, interoperable technology systems to support management, operations, teaching, and learning

5. Digital Citizenship. Educational Administrators model and facilitate understanding of social, ethical, and legal issues and responsibilities related to an evolving digital culture. Educational Administrators:

- a. ensure equitable access to appropriate digital tools and resources to meet the needs of all learners
- b. promote, model, and establish policies for safe, legal, and ethical use of digital information and technology
- c. promote and model responsible social interactions related to the use of technology and information
- d. model and facilitate the development of a shared cultural understanding and involvement in global issues through the use of contemporary communication and collaboration tools

ATTACHMENT

D

Morris Central School District Technology Benchmarks

The tables on the following pages outline how specific computer hardware and software skills progress as students progress through the school.

Chart Making Technology Benchmarks

At the end of each school year, students will be able to...

Year	Chart Making
<i>Kindergarten</i>	Identify different types of categories, measurements and maps with teacher assistance.
<i>Grade 1</i>	<ul style="list-style-type: none"> • Create basic flowcharts or brainstorming as a whole class. • Read and explain simple tables.
<i>Grade 2</i>	<ul style="list-style-type: none"> • Create basic flowcharts or brainstorming diagrams individually. • Create simple tables/graphs with teacher assistance.
<i>Grade 3</i>	<ul style="list-style-type: none"> • Create flowcharts with different organizational structures. • Create tables.
<i>Grade 4</i>	<ul style="list-style-type: none"> • Create graphs. • Create simple maps.
<i>Grade 5</i>	<ul style="list-style-type: none"> • Manipulate flowcharts or brainstorming diagrams into outlines • Create specialized maps based on teacher assigned criteria with teacher assistance
<i>Grade 6</i>	<ul style="list-style-type: none"> • Insert a chart into a word processing or multimedia file and provide appropriate explanation. • Create custom charts to meet specialized needs. • Create specialized maps based on teacher assigned criteria independently
<i>Grade 7</i>	<ul style="list-style-type: none"> • Create specialized maps based upon given criteria. • Create custom tables from available information and interpret the data from them.
<i>Grade 8</i>	<ul style="list-style-type: none"> • Export chart information to various formats for various presentation styles. • Import charts into various application files.
<i>Grade 9</i>	<ul style="list-style-type: none"> • Create basic charts from firsthand research
<i>Grade 10</i>	<ul style="list-style-type: none"> • Create maps, tables and graphs to illustrate points in written assignments and presentations.
<i>Grade 11</i>	<ul style="list-style-type: none"> • Use embedded variable values, functions or calculations to

	create specialized charts.
<i>Grade 12</i>	<ul style="list-style-type: none"> • Use various chart formats to support a persuasive argument.

Computer and Peripheral Use Technology Benchmarks

At the end of each school year, students will be able to...

Year	Computer Hardware and Peripheral Use
Kindergarten	<ul style="list-style-type: none"> • Identify and locate components of the computer and related equipment • Perform basic mouse skills • Identify and locate letters, numbers and special keys on a keyboard • Wake a computer from sleep or screen saver mode • Insert and remove a CD • Recognize scanners, digital cameras and other related equipment • Properly turn on and off the computer • Type own name
Grade 1	<ul style="list-style-type: none"> • Use the cursor to insert text • Use keyboarding skills (left hand on left side, right hand on right side, thumb on space bar, etc.) • Identify and locate punctuation keys on a keyboard • Use shift, caps lock, arrow, and space bar keys • Demonstrate proper posture • Suggest possible uses for scanners, digital cameras and other related equipment • Use a mouse to choose a command from a menu bar, open a folder or file, start or quit a program
Grade 2	<ul style="list-style-type: none"> • Choose a sensible file name and save work in correct folder with teacher assistance • Perform intermediate mouse skills (highlighting, etc) • Demonstrate proper keyboarding techniques • Identify home row keys • Be aware of how to use appropriate computer peripherals
Grade 3	<ul style="list-style-type: none"> • Perform advanced mouse skills (resize and move windows, triple clicking, etc) • Recognize top row keys • Perform basics of scanners and digital camera and scanner with teacher assistance.
Grade 4	<ul style="list-style-type: none"> • Touch-type 15 wpm with 90% accuracy • Recognize all alphabet keys

	<ul style="list-style-type: none"> • Import a scanned image/digital photo into a document.
Grade 5	<ul style="list-style-type: none"> • Use all essential computer vocabulary • Recognize all numeric keys • Know basic keyboard shortcuts • Touch-type 20 wpm with 90% accuracy • Upload information from various peripherals. (i.e., video, audio, text files, etc) • Use digital video cameras with teacher assistance
Grade 6	<ul style="list-style-type: none"> • Locate the letters on the keyboard without looking • Input data at 25-40 wpm with 90% accuracy • Use digital cameras in class projects independently • Use various storage medias or disk drives to save and upload to network and computer.
Grade 7	<ul style="list-style-type: none"> • Apply keyboard shortcuts such as cut, copy, paste, save and select all • Use attached peripheral equipment with assistance • Use disk drives to save and upload to network and computer (hard disks, Zip, Thumb drives, etc.) • Attach various storage medias or disk drives to save and upload to network and computer • Shoot movies independently with digital video cameras • Use projectors in presentations
Grade 8	<ul style="list-style-type: none"> • Set up peripheral equipment (cameras, scanners, projectors) with assistance • Use a scanner and save images in appropriate file format • Connect a digital video camera to import video clips
Grade 9	<ul style="list-style-type: none"> • Utilize the right-button functions on the mouse of a Windows-based computer • Utilize peripheral ports on the computer • Manually adjust digital camera settings and external lighting to enhance images taken in a particular environment
Grade 10	<ul style="list-style-type: none"> • Examine attached settings and attachment of peripheral equipment to determine problems and conflicts • Add and Connect peripherals to computer with teacher assistance • Choose the necessary driver to add the new computer.
Grade 11	<ul style="list-style-type: none"> • Independently set up peripheral equipment to computers • Connect peripherals to computer • Examine attached settings and attachment of peripheral equipment to determine problems and conflicts
Grade 12	<ul style="list-style-type: none"> • Understand the basic functionality of all parts of a computer and

	<p>related peripheral equipment to increase productivity and solve problems</p> <ul style="list-style-type: none"> • Assemble computer hardware to set up a whole computer system • Add memory and sound card to a Windows machine
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Databases Technology Benchmarks

At the end of each school year, students will be able to...

Year	Databases
Kindergarten	<ul style="list-style-type: none"> • Use library database with teacher assistance. (Progress gradually)
Grade 1	<ul style="list-style-type: none"> • Use library database with teacher assistance. (Progress gradually)
Grade 2	<ul style="list-style-type: none"> • Use library database with teacher assistance. (Progress gradually)
Grade 3	<ul style="list-style-type: none"> • Use library database with teacher assistance • Use simple Internet Search Engines like Google, Ask Jeeves. • Use CD ROMs.
Grade 4	<ul style="list-style-type: none"> • Use library database on own • Recognize a variety of search engines.
Grade 5	<ul style="list-style-type: none"> • Perform advanced searches using a variety of search engines.
Grade 6	<ul style="list-style-type: none"> • Use Internet Search Engines • Use Encyclopedias on CD ROMs • Use Internet Resources to search online databases • Create a database layout to share results of an investigation
Grade 7	<ul style="list-style-type: none"> • Use Internet Search Engines • Use Encyclopedias on CD ROMs • Use Internet Resources to search online databases • Collect and analyze information collaboratively using an on-line database
Grade 8	<ul style="list-style-type: none"> • Choose a database to collate information and to create layouts • Use the different types of data • Design a simple database.
Grade 9	<ul style="list-style-type: none"> • Create content based databases with teacher assistance • Sort data according to ascending or descending order • Select and use on-line databases for academic research
Grade 10	<ul style="list-style-type: none"> • Manipulate the size and shape of fields in the database • Create a query and report in a database • Design and utilize a database as part of an academic project

Grade 11	<ul style="list-style-type: none"> • Select and search for data • Design and utilize a database to share comparative information using raw data and summaries
Grade 12	<ul style="list-style-type: none"> • Create and use a database as a productivity tool for research and communication.

Email and Internet Communication Technology Benchmarks

At the end of each school year, students will be able to...

Year	Email and Internet Communication
Kindergarten	<ul style="list-style-type: none"> • View a web page • Participate in whole-class projects to exchange electronic information (contribute in a class email message to a partner class)
Grade 1	<ul style="list-style-type: none"> • Navigate from one screen to another using hyperlinks • Contribute to a large group email using the components of send and reply
Grade 2	<ul style="list-style-type: none"> • Review web pages already visited using the back/forward buttons from the navigation bar • Login with username and password for their email • Use items from the menu bar such as Go and Bookmark
Grade 3	<ul style="list-style-type: none"> • Access a browser to do a query using a search engine • Type the keyword to search the correct information • Observe copyright laws and make references • Compose an email message including an address line, subject line, message box, signature line • Reply to an email.
Grade 4	<ul style="list-style-type: none"> • Evaluate a selected site using the following criteria: authority, accuracy, purpose, currency, and helpfulness • Observe copyright laws and make references • Follow email etiquette
Grade 5	<ul style="list-style-type: none"> • Choose a site which best matches a query • Evaluate a selected site using the following criteria: authority and purpose • Compose an email with attachments and perform group emails • Perform advanced searches with +, and, -, etc.
Grade 6	<ul style="list-style-type: none"> • Send email with attachments • Make an address book in an email

	<ul style="list-style-type: none"> • Demonstrate clarity in telecommunications exchanges (state the key idea or question, provide necessary information)
Grade 7	<ul style="list-style-type: none"> • Use Email to communicate with a variety of people • Compose a subject line that summarizes the content of a message.
Grade 8	<ul style="list-style-type: none"> • Use Internet resources to communicate with a variety of groups • Summarize ideas, state opinions, copy original questions • Create a personal webpage
Grade 9	<ul style="list-style-type: none"> • Use e-groups, list serves, bulletin boards • Create a personal web page advocating a point of view to students in other parts of the world with links to at least three pages.
Grade 10	<ul style="list-style-type: none"> • Use e-groups, list serves, bulletin boards, and messaging • Create a website for a classroom project advocating a point view with links to at least five additional pages.
Grade 11	<ul style="list-style-type: none"> • Use e-groups, list serves, bulletin boards, messaging and chat groups • Create a website for a classroom project advocating a point view with links to at least eight additional pages.
Grade 12	<ul style="list-style-type: none"> • Use various on-line communication tools and filter out unwanted participants • Create a website for a classroom project advocating a point view with at least 10 pages and links to reliable sources.

Graphic Design and Desktop Publishing Technology Benchmarks

At the end of each school year, students will be able to...

Year	Graphic Design and Desktop Publishing
Kindergarten	<ul style="list-style-type: none"> • Illustrate an idea using appropriate software • Change colors, paintbrushes, stamps or other picture insertion tools • Erase parts of a graphic image and delete incorrectly typed words • Create and extend patterns using stamps and other simple picture tools
Grade 1	<ul style="list-style-type: none"> • Manipulate shapes on a screen to create new patterns • Compose a caption to explain an image • Choose and use simple tools such as the paintbrushes, polygon tool and line tool

	<ul style="list-style-type: none"> • Perform basic formatting • Insert graphics into Word • Make effective use of the window or screen space to communicate
Grade 2	<ul style="list-style-type: none"> • Use patterns and line fill features • With guidance, select from know software to perform a familiar task (use a paint/draw program to create an illustration) • Perform more formatting (body, text, bold, etc) • Manipulate elements in a publication to improve communication
Grade 3	<ul style="list-style-type: none"> • Insert graphics from application, CDs, clip art collections, or the Internet • Perform basic formatting by combining text and graphics • Resize graphics to fit an appropriate space • Combine texts and graphics
Grade 4	<ul style="list-style-type: none"> • Place, crop, and resize images in a document • Create a one-page newsletter or brochure
Grade 5	<ul style="list-style-type: none"> • Use transformation tools such as rotate, scale, and distort • Use a range of basic drawing and paint tools • Insert graphics from scanners and digital cameras • Save graphics in the appropriate format (gif, jpg, tif, etc.) • Maintain consistency of style for the key elements of a document • Create a two page newsletter or brochure
Grade 6	<ul style="list-style-type: none"> • Create and manipulate graphics (cut, crop, paste, scale, rotate, flip, filter, sharpen) • Insert graphics into various applications and combine them with text • Prepare documents suitable for submission, maintaining proper style for the audience • Create columns on a page • Use template files to create a class newsletter/report with multiple pages that incorporates student writing and graphics
Grade 7	<ul style="list-style-type: none"> • Create template files to create a class newsletter/report with multiple pages that incorporates student writing and graphics • Create balanced layouts for pages and screens (use representational icons within a navigation bar or menu, use a footer to place an address and page number) • Use basic mechanical drawing software.
Grade 8	<ul style="list-style-type: none"> • Adjust the lighting and colors of an image • Combine appropriate software applications to produce a product • Use a range of techniques to facilitate composition, revision and editing, including bullets, tables and margins

	<ul style="list-style-type: none"> • Balance text, graphics and borders, and align and place objects using rulers • Apply filters to an image • Create detailed drawing plans for building projects.
Grade 9	<ul style="list-style-type: none"> • Enhance images or graphic objects with the appropriate tools • Use distort, perspective, rotate, shear and flip tools.
Grade 10	<ul style="list-style-type: none"> • Enhance images or graphic objects with filters or other advanced features • Use and apply all appropriate selection and editing tools for graphic images.
Grade 11	<ul style="list-style-type: none"> • Create 3D images using drawing software with teacher assistance • Maintain and produce an on-line graphics portfolio
Grade 12	<ul style="list-style-type: none"> • Create 3D images using drawing software.

Multimedia Technology Benchmarks

At the end of each school year, students will be able to...

Year	Multimedia
Kindergarten	<ul style="list-style-type: none"> • Use aspects of multimedia applications: sounds, graphics • Access Kid Pix or CD programs • Access drawing and painting tools with assistance • Create text areas in Smart Notebook. • Use tools within an application to draw a picture (line, fill, shapes) with Smart Notebook and Photo Editor • Select a graphic within an application with Smart Notebook
Grade 1	<ul style="list-style-type: none"> • Create text areas with assistance in Smart Notebook • Select a graphic within an application with Smart Notebook • Access and create sounds with assistance • Create transitions (visible buttons, screen transitions) with assistance
Grade 2	<ul style="list-style-type: none"> • Create text areas • Use aspects, animations in Smart Notebook
Grade 3	<ul style="list-style-type: none"> • Perform the following in Photoshop with assistance: <ul style="list-style-type: none"> ○ edit text spelling, style, font, size, alignment, and color ○ cut and copy from other applications ○ manipulate a graphic within an application ○ create sounds within an application ○ create transitions (visible and transparent buttons, screen

	<ul style="list-style-type: none"> ○ transitions) ○ manipulate information within a document (moving cards in a stack, changing information and text) ● Use Illustrator with assistance
Grade 4	<ul style="list-style-type: none"> ● Perform the following in Photoshop on own: <ul style="list-style-type: none"> ○ edit text spelling, style, font, size, alignment, and color ○ cut and copy from other applications ○ manipulate a graphic within an application ○ create sounds within an application ○ create transitions (visible and transparent buttons, screen transitions) ○ manipulate information within a document (moving cards in a stack, changing information and text) ● Use Illustrator on own ● Perform more advanced functions in Photoshop and Illustrator
Grade 5	<ul style="list-style-type: none"> ● Perform the following in PowerPoint on own: <ul style="list-style-type: none"> ○ edit text spelling, style, font, size, alignment, and color ○ cut and copy from other applications ○ select and manipulate a graphic within an application ○ access or create sounds within an application ○ create transitions (visible and transparent buttons, screen transitions) ○ create a basic animation with assistance ○ manipulate information within a document (moving cards in a stack, changing information. add video clips to pages or cards)
Grade 6	<ul style="list-style-type: none"> ● With assistance edit text spelling, style, font, size, alignment, and color ● With assistance cut and copy from other applications ● Select and manipulate a graphic within an application ● Access or create sounds within an application ● Create transitions (visible and transparent buttons, screen transitions) ● Create a basic animation with assistance ● Manipulate information within a document (moving cards in a stack, changing information and text) ● Add video clips to pages or cards ● Produce a simple multimedia product (create a database layout to share results of an investigation, use a spreadsheet to calculate and display comparisons) ● Select the appropriate software to produce a product (choose an interactive program to share information through text, pictures,

	<p>sound and video)</p> <ul style="list-style-type: none"> • Use simulations to learn about people, the world, and events • Use simulations to learn basic problem-solving strategies
Grade 7	<ul style="list-style-type: none"> • Design and create multimedia presentations • Produce a simple multimedia product (create a brochure to promote an idea, design a web page to publish artwork) • Select the appropriate software to produce a product (combine previously made diagrams and captions in a slide show)
Grade 8	<ul style="list-style-type: none"> • Design and create multimedia presentations, import graphics, sound, video and other files from a variety of sources • Produce a simple multimedia product (create a web page advocating a point of view to students in other parts of the world, design a database to share comparative information using raw data and summaries) • Select the appropriate software to produce a product (choose a spreadsheet program to graph statistical data, choose a database to collate information and to create layouts)
Grade 9	<ul style="list-style-type: none"> • Use advanced features of multimedia programs (i.e. advanced animations, video, sound, transitions, can convert to html, can upload to webpage.) • Use multimedia to illustrate and support a complex argument, scientific process or point of view • Synthesize information from multiple sources to create new products
Grade 10	<ul style="list-style-type: none"> • Use multimedia to support academic endeavors
Grade 11	Prepare a CD ROM multimedia project
Grade 12	<ul style="list-style-type: none"> • Use all the skills of multimedia and create a presentation that promotes an idea, person or place.

Network Navigation and Printing Technology Benchmarks

At the end of each school year, students will be able to...

Year	Network Navigation and Printing
Kindergarten	<ul style="list-style-type: none"> • Access class folder with assistance • Log on and off network with assistance • Recognize class folder • Print assigned work with teacher assistance and permission
Grade 1	<ul style="list-style-type: none"> • Access class folder independently • Log on and off network independently • Print assigned work independently to a default printer with teacher permission

Grade 2	<ul style="list-style-type: none"> • Save files with assistance • Log off the computer after use.
Grade 3	<ul style="list-style-type: none"> • Save files independently • Utilize the "Page Setup" command • Check printer for correct paper size.
Grade 4	<ul style="list-style-type: none"> • Know how to "Save As" • Navigate the appropriate windows to print a document • Troubleshoot printer problems with assistance • Log on to personal folder on the FILE server • Preview documents before printing to avoid excess printing • Open a file in one folder and save in another
Grade 5	<ul style="list-style-type: none"> • Log onto public folders on the network • Assign a printing task to a specified printer on the network • Recognize when a printer is out of paper by using the print monitor • Troubleshoot printer problems independently
Grade 6	<ul style="list-style-type: none"> • Decide the best location to save files (desktop, personal folder, public folder, etc.) • Recognize when a printer miss-feeds or is out of paper by using the warning light on the printer • Load paper tray with desired paper size or color • Log on to multiple servers as required
Grade 7	<ul style="list-style-type: none"> • Add a network printer to a printer list • Clear minor paper jams.
Grade 8	<ul style="list-style-type: none"> • Share files from one computer to another • Decide best location to save files • Use print center to identify printer problems • Understand how many pages will be printed and plan printing job accordingly (i.e., printing only one page from a multiple page document) • Clear most printer jams.
Grade 9	<ul style="list-style-type: none"> • Use a window-based machine to complete all networking tasks learned from K-8 • Use the network to minimize resource use (i.e. plan printing to reduce paper wastage)
Grade 10	<ul style="list-style-type: none"> • Identify network problems • Solve networking problems with assistance
Grade 11	<ul style="list-style-type: none"> • Adjust control panels and other relevant network settings to solve network problems
Grade 12	<ul style="list-style-type: none"> • Utilize the network to increase productivity, communication, research and critical thinking.

Operating Systems, Application Use and File Management Technology Benchmarks

At the end of each school year, students will be able to...

Year	Operating Systems, Application Use and File Management
Kindergarten	<ul style="list-style-type: none"> • Navigate the Desktop with assistance • Identify program icons, open and quit an application • Locate the save command in the file menu
Grade 1	<ul style="list-style-type: none"> • Perform basic mouse skills • Navigate the Desktop independently • Save a file with a simple name in the correct destination folder with teacher assistance.
Grade 2	<ul style="list-style-type: none"> • Demonstrate the ability to change applications using the finder and to quit currently running applications • Move between applications • Create new folders with simple names with assistance • Copy and paste
Grade 3	<ul style="list-style-type: none"> • Master the use of major tools within an application • Cut and copy and manipulate information from different applications • Manipulate more than one program at once • Create folders within folders independently • Perform basic menu use • Manipulate windows (close, open, move, rearrange, resize, scroll) • Drag and drop items to trash and folders • Recognize different file formats by icons.
Grade 4	<ul style="list-style-type: none"> • Locate and use the basic help commands of an application with assistance • Duplicate files • Create subfolders • Do a force quit or a force restart • Recognize different file formats by icons.
Grade 5	<ul style="list-style-type: none"> • Utilize keyboard shortcuts • Locate and use the basic help commands of an application independently
Grade 6	<ul style="list-style-type: none"> • Demonstrate independent use of copy and paste techniques

	<p>with multiple applications</p> <ul style="list-style-type: none"> • Drag and drop items to trash and folders • Make subfolders to hold multiple items for specific projects • Create folders on the network • Save file into desire folder on network.
Grade 7	<ul style="list-style-type: none"> • Master the use of less commonly used tools in an application • Use attached peripherals • Locate the application file • Utilize the public server • Limit file memory size • Utilize external disk drives • Download images, audio and video from the Internet.
Grade 8	<ul style="list-style-type: none"> • Use advanced help features of an application • Save in different locations
Grade 9	<ul style="list-style-type: none"> • Set up peripheral equipment and check basic settings with teacher assistance • Force quit applications on a Windows-based computer and force restart a Windows-based computer • Get info or properties about files • Merge files • Attach files to email • Access all appropriate networked servers • Backup files using different media (e.g., hard drive, network folders, CD ROMs, USB thumb drives) • Convert files between different computer platforms.
Grade 10	<ul style="list-style-type: none"> • Check that cables are properly attached to the computer • Recognize different versions of files with the same names • Export files to different file formats • Store data using remote servers to store data • Re-install operating systems and format disks as necessary
Grade 11	<ul style="list-style-type: none"> • Check and manipulate control panel settings for basic operations (network, monitor resolution, sound, etc.) • Save files in different formats based on the platform and intended application
Grade 12	<ul style="list-style-type: none"> • Use (or have the ability to learn how to use) all needed hardware and software • Manipulate files and applications to increase productivity in all normal situations

Searching for and Evaluating Information Technology Benchmarks

At the end of each school year, students will be able to...

Year	Searching for and Evaluating Information
Kindergarten	<ul style="list-style-type: none"> • Use simple strategies to retrieve relevant information (print a chosen picture or listen to a chosen sound) with teacher assistance.
Grade 1	<ul style="list-style-type: none"> • Use icons or simple key words to locate information about a topic in a multimedia database (e.g. World Book Winnebago), • Identify appropriate sources for locating specific information with teacher assistance • Access ideas and/or information from an electronic source with teacher assistance.
Grade 2	<ul style="list-style-type: none"> • Access information from a variety of electronic sources independently • Use an entry-level electronic encyclopedia independently • Use an appropriate website and its links as a class group • Select from simple screen icons to locate relevant information (using picture icons or initial letters to locate pictures and words in an electronic dictionary) with teacher assistance • Use strategies to retrieve relevant information (print a chosen article) with teacher assistance. • Use bookmarks to access pre-selected websites
Grade 3	<ul style="list-style-type: none"> • Begin to identify, from specific resources, appropriate sources for locating information (an appropriate web page or CD) • Use a series of menus in a children's website to locate information about a topic • Use simple strategies to retrieve relevant information • Access more than one article about the same topic from multiple sources
Grade 4	<ul style="list-style-type: none"> • Search a selected database to locate specific information • Identify appropriate sources for locating specific information
Grade 5	<ul style="list-style-type: none"> • Identify fiction, nonfiction, magazines, reference, non-print media, and electronic resources • Access pre-selected Internet sites using URLs • Gather information by navigating a multimedia stack, using outlines, menus, and hypertext links • Use strategies to retrieve information from a number of

	<p>different sources</p> <ul style="list-style-type: none"> • Choose proper electronic sources for specific tasks.
Grade 6	<ul style="list-style-type: none"> • Use email to gather information from specific sources • Refine Internet search techniques by taking a number of keywords from classroom brainstorming • Use strategies to retrieve relevant information from a number of sources and begin to assess the accuracy of that information • Choose the electronic source that appears the most appropriate for a specific task • Analyze and synthesize information appropriate to the developmental level • Properly cite researched information based on accepted standards • Identify the validity of on-line information
Grade 7	<ul style="list-style-type: none"> • Pose questions to on-line experts • Use different search engines to locate information on the same topic • Retrieve information from a number of sources and assess the accuracy of that information • Combine selected key words to conduct a Boolean search • Gather and compare information that cites different viewpoints on an issue • From a variety of electronic sources, select the information which appears to be recent and accurate • Question information that is obviously biased • Use appropriate Internet-based tools to test and determine the accuracy of information
Grade 8	<ul style="list-style-type: none"> • Search an on-line database to gather information • Use the Boolean logic operators to search the correct information • Retrieve relevant information from various sources and evaluate the reliability of those sources • Evaluate conflicting evidence • Use criteria to compare information from a variety of electronic sources (investigate and evaluate multiple sources for an investigation and choose the most relevant, up-to-date and accurate information)
Grade 9	<ul style="list-style-type: none"> • Utilize search engine for specific content needs • Retrieve relevant information from various sources and evaluate the reliability of those sources • Evaluate conflicting evidence • Consider the reliability of sources • Use criteria to compare information from a variety of

	<p>electronic sources (investigate and evaluate multiple sources for an investigation and choose the most relevant, up-to-date and accurate information)</p> <ul style="list-style-type: none"> Evaluate information for appropriateness to specific content.
Grade 10	<ul style="list-style-type: none"> Utilize a variety of search engines for specific content needs Query newsgroups Combine selected key words to conduct a Boolean search Retrieve relevant information from various sources and evaluate the reliability of those sources
Grade 11	<ul style="list-style-type: none"> Evaluate the effectiveness of various search engines Search an on-line database to gather information Combine selected key words to define a limited Boolean search Evaluate conflicting evidence Use criteria to compare information from a variety of electronic sources (investigate and evaluate multiple sources for an investigation and choose the most relevant, up-to-date and accurate information)
Grade 12	<ul style="list-style-type: none"> Choose the most appropriate search engine for doing research Rank the reliability of references

Spreadsheets Technology Benchmarks

At the end of each school year, students will be able to...

Year	Spreadsheets
Kindergarten	<ul style="list-style-type: none"> Recognize simple spreadsheets.
Grade 1	<ul style="list-style-type: none"> Recognize cells, row headings and column headings Create a spreadsheet as a large group inserting data in columns and rows
Grade 2	<ul style="list-style-type: none"> Use a spreadsheet template to classify and compare research information with teacher assistance Save a spreadsheet Print a spreadsheet
Grade 3	<ul style="list-style-type: none"> Create a simple spreadsheet with teacher assistance Select the type of graph to display information with teacher

	<p>assistance</p> <ul style="list-style-type: none"> • Insert a graph into word processing documents • Name, test and edit a spreadsheet
Grade 4	<ul style="list-style-type: none"> • Create a simple spreadsheet independently • Determine data items to use in a spreadsheet • Insert data in column and rows • Select the type of graph to display information independently • Insert a graph into word processing documents with teacher assistance • Use tools to manipulate color, labels, and titles.
Grade 5	<ul style="list-style-type: none"> • Determine data items to use in a spreadsheet independently • Insert data in column and rows independently • Select the type of graph to display information independently • Insert a graph into word processing documents independently • Name, save, test and edit a spreadsheet independently • Print a spreadsheet independently • Use tools to manipulate color, labels, and titles independently • Use a spreadsheet to display a chart, table or graph independently • Manipulate cell sizes to accommodate data • Incorporate borders
Grade 6	<ul style="list-style-type: none"> • Create a simple spreadsheet to simulate and explore a situation with teacher assistance • Use a spreadsheet to calculate and display comparisons • Cut, copy, and paste data • Select a font to display the information
Grade 7	<ul style="list-style-type: none"> • Create a simple spreadsheet to simulate and explore a situation independently • Insert a spreadsheet into a word processing document • Determine print range • Sort data in ascending and descending order • Create and manipulate tables in a word processing document
Grade 8	<ul style="list-style-type: none"> • graphs and tables) with teacher assistance • Insert formulas and calculate equations with teacher assistance • Insert a header and footer • Choose a spreadsheet program to graph statistical data
Grade 9	<ul style="list-style-type: none"> • Create a spreadsheet using mathematical operations such as formulas, graphs and tables

Grade 10	<ul style="list-style-type: none"> • Create graphs and table to analyze statistical data • Use a spreadsheet for mathematical mapping • Use a spreadsheet for advanced mathematical functions • Use a spreadsheet to make mathematical predictions
Grade 11	<ul style="list-style-type: none"> • Create graphs and table to display complex data to show relationships • Interface spreadsheets with external devices such as probes and graphing calculators
Grade 12	<ul style="list-style-type: none"> • Use spreadsheets to compile and analyze data for original research

Troubleshooting Technology Benchmarks

At the end of each school year, students will be able to...

Year	Troubleshooting
Kindergarten	<ul style="list-style-type: none"> • Recognize when there are problems with the computer and call a teacher for help
Grade 1	<ul style="list-style-type: none"> • Identify a frozen computer and be able to force-restart a computer • Restart a frozen computer
Grade 2	<ul style="list-style-type: none"> • Identify a frozen computer and be able to force-quit an application
Grade 3	<ul style="list-style-type: none"> • Recognize a printer problem
Grade 4	<ul style="list-style-type: none"> • Manually eject a CD ROM
Grade 5	<ul style="list-style-type: none"> • Recognize a paper jam in the printer • Upon diagnosing a problem, recommend solutions to the teacher.
Grade 6	<ul style="list-style-type: none"> • Access the help menu to search for answers to how-to questions • Diagnose and solve common technology problems (the computer freezes, the server connection is lost, the printer won't print)
Grade 7	<ul style="list-style-type: none"> • Check the keyboard, mouse and other cable connections • Diagnose minor disk problems (e.g. disk is locked or

	unreadable).
Grade 8	<ul style="list-style-type: none"> Choose the appropriate application needed to open a file, depending on its file format.
Grade 9	<ul style="list-style-type: none"> Plug in peripherals and properly install software Properly disconnect media Use diagnostic and repair software
Grade 10	<ul style="list-style-type: none"> Start with extensions off (Mac) Start in safe-mode (PC)
Grade 11	<ul style="list-style-type: none"> Diagnose software conflicts Uninstall and reinstall software
Grade 12	<ul style="list-style-type: none"> Solve software conflicts Download utility software from the Internet Set up a projector and diagnose monitor problems

Video Production Technology Benchmarks

At the end of each school year, students will be able to....

Year	Video Production
Kindergarten	<ul style="list-style-type: none"> Exposed to digital video in CD ROMS and other media Participates in projects that are videotaped by the teacher and later transferred to computer.
Grade 1	<ul style="list-style-type: none"> Discuss and help develop the class website.
Grade 2	<ul style="list-style-type: none"> Participates in projects that are videotaped by the teacher and later transferred to computer Film one scene with teacher guidance.
Grade 3	<ul style="list-style-type: none"> Participates in projects that are videotaped by the teacher and later transferred to computer Film one scene independently.
Grade 4	<ul style="list-style-type: none"> Use basic cutting, titling and transition techniques to create short video clips.
Grade 5	<ul style="list-style-type: none"> Design small video projects for classroom presentations using video editing software Plan to use simple special effects Insert sound into the desired location in a video
Grade 6	<ul style="list-style-type: none"> Design small video projects for classroom presentations using

	<p>video editing software</p> <ul style="list-style-type: none"> • Plan to use simple special effects • Insert sound into the desired location in a video
Grade 7	<ul style="list-style-type: none"> • Design small video projects for classroom presentations using video editing software • Utilize a variety of transitions and titling effects in a video • Insert a soundtrack for a video and time action around the sound.
Grade 8	<ul style="list-style-type: none"> • Design small video projects for classroom presentations using video editing software • Utilize a variety of transitions and titling effects in a video • Insert a soundtrack for a video and time action around the sound • Insert video into multimedia presentations (Flash, PowerPoint, Photoshop).
Grade 9	<ul style="list-style-type: none"> • Design and edit small video projects for classroom presentations using video editing software • Utilize a variety of effects, including lighting, transitions and titling in a video • Manipulate sounds in two tracks or more • Compress video and prepare for insertion into multimedia presentations
Grade 10	<ul style="list-style-type: none"> • Design small video projects for classroom presentations using video editing software • Integrate video effects, including lighting, transitions and titling • Manipulate sounds in two tracks or more • Insert video into multimedia presentations (Flash, PowerPoint, Photoshop).
Grade 11	<ul style="list-style-type: none"> • Design a music video or video montage • Utilize a variety of effects, including lighting, transitions and titling in a video • Manipulate sounds in two tracks or more.
Grade 12	<ul style="list-style-type: none"> • Design a 5-minute dramatic or documentary video • Utilize a variety of effects, including lighting, transitions and titling in a video • Manipulate sounds in two tracks or more.

Website Design Technology Benchmarks

At the end of the school year, students will be able to...

Year	Website Design
Kindergarten	<ul style="list-style-type: none"> • Discuss the class website.
Grade 1	<ul style="list-style-type: none"> • Exposed to and help develop the class website.
Grade 2	<ul style="list-style-type: none"> • Create a webpage using the "save as..." command in a graphics application with teacher assistance.
Grade 3	<ul style="list-style-type: none"> • Create a webpage using the "save as..." command in graphics and word processing applications independently
Grade 4	<ul style="list-style-type: none"> • Create a webpage with links using PowerPoint or Dreamweaver
Grade 5	<ul style="list-style-type: none"> • Create a simple webpage using webpage design software that includes text, graphics, and links with teacher assistance • Save files in the appropriate folder.
Grade 6	<ul style="list-style-type: none"> • Create a simple webpage using webpage design software that include text, graphics, and links • Maintain consistency of style in the key elements and choose elements that will assist the audience (create text chunks of appropriate length and size, use representational icons for buttons)
Grade 7	<ul style="list-style-type: none"> • Maintain a simple webpage using webpage design software that include text, graphics, and links • Create a clear, balanced and consistent layout for pages and screens (use representational icons within a navigation bar or menu, use a footer to place an address and page number)
Grade 8	<ul style="list-style-type: none"> • Create a simple website using webpage design software that include text, graphics, and links • Save and update image files correctly • Be able to upload web pages to a web server.
Grade 9	<ul style="list-style-type: none"> • Identify basic web page codes and edit source code with HTML authoring software • Create a personal web page advocating a point of view to students in other parts of the world with links to at least three pages.
Grade 10	<ul style="list-style-type: none"> • Incorporate animations and other HTML features (i.e. tables, lists, counters) • Create a website for a classroom project advocating a point view with links to at least five additional pages.
Grade 11	<ul style="list-style-type: none"> • Incorporate animations and advanced HTML features (i.e. tables, lists, counters, reply forms) • Create a website for a classroom project advocating a point view with links to at least eight additional pages • Include basic Flash animations
Grade 12	<ul style="list-style-type: none"> • Incorporate animations and advanced HTML features (i.e. tables, lists, counters, reply forms, java script)

	<ul style="list-style-type: none"> • Create a website for a classroom project advocating a point view with at least 10 pages and links to reliable sources • Include advanced Flash animations and other multimedia plug-ins
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Word Processing and Writing Technology Benchmarks

At the end of each school year, students will be able to...

Year	Word Processing and Writing
Kindergarten	<ul style="list-style-type: none"> • Use the shift key • Use punctuation keys • Use a word processor or graphics program to type text (name, words) with teacher assistance • Edit documents and make occasional changes to a composition while writing (delete or replace letters) with teacher assistance
Grade 1	<ul style="list-style-type: none"> • Pick font and style • With guidance select known software to repeat a routine (use a word processor to type names, words, simple stories, etc.) • Create documents in Word independently • Create basic documents in Word with teacher assistance • Perform editing in basic Photoshop with teacher assistance.
Grade 2	<ul style="list-style-type: none"> • Create a storyboard for a computer-based project • Compose and illustrate a nonfiction text • Use a word processor to generate and refine possible questions for an inquiry • Create basic documents in Word independently • Create basic documents in Word with teacher assistance • Perform editing in basic Word with teacher assistance.
Grade 3	<ul style="list-style-type: none"> • Create a storyboard for a computer-based project with a computer application • Select from known software to perform a familiar task (select a word processor to write reports, poems, stories) • Make changes to a composition for revising and editing while writing and after completion of a draft (revise a story by adding and inserting ideas and edit known spelling and punctuation errors by deleting and replacing and/or using a spelling check) • Perform editing in basic Word independently. • Create basic documents in Word independently. Examples: <ul style="list-style-type: none"> ○ change fonts, sizes, styles, alignments and borders

	<ul style="list-style-type: none"> ○ insert a graphic from a library ○ utilize edit commands such as undo, cut, copy and paste ○ utilize the tool bar and page setup, column and spell check commands ○ select the color of the text ○ use text wrap for graphics
Grade 4	<ul style="list-style-type: none"> • Utilize the full writing process through the use of word processor to produce a complete composition • Create intermediate documents in Word independently. Examples: <ul style="list-style-type: none"> ○ use alignment commands ○ tabs ○ insert tables ○ bullets
Grade 5	<ul style="list-style-type: none"> • Take a completed composition and edit its format, text style and page layout for different kinds of writing tasks • Create advanced documents in Word independently. Examples: <ul style="list-style-type: none"> ○ use headers and footers ○ resize fonts ○ change fonts ○ use style features ○ do a spell check ○ use thesaurus ○ cut and paste ○ copy and paste
Grade 6	<ul style="list-style-type: none"> • Use style features • Use thesaurus • Use simple techniques to facilitate the writing process • Use a mind mapping program to brainstorm and connect ideas • Classify ideas by copying and pasting into a chart, creating headings for each group
Grade 7	<ul style="list-style-type: none"> • Use graphics from library • Download graphics from Internet sites • Make graphics from software and use in document • Use techniques to facilitate composition, revision and editing (compose both introduction and conclusion, filling out the body text later, mark sections that will require revision by changing the style) • Create a sequence of steps in a process that can then be revised and reordered

Grade 8	<ul style="list-style-type: none"> • Make columns • Use a range of techniques to facilitate composition, revision and editing (write key points in bullet form, cut and paste paragraphs to reorder them)
Grade 9	<ul style="list-style-type: none"> • Create simple project specific word processing documents which include graphics, tables, images, and other files • Use electronic dictionary, thesaurus and spell checker, and multilingual dictionaries • Use a range of techniques to facilitate composition, revision and editing (write key points in bullet form, cut and paste paragraphs to reorder them) • Create headers, footers and references following correct style
Grade 10	<ul style="list-style-type: none"> • Create complex newsletters or booklets for specific classroom projects with teacher assistance • Insert spreadsheets into word processor documents.
Grade 11	<ul style="list-style-type: none"> • Create bilingual documents • Save into various formats and insert into other documents or files with teacher assistance
Grade 12	<ul style="list-style-type: none"> • Complete and communicate all research and writing assignments in appropriate and recognized styles • Save into various formats and insert into other documents or files as needed