

Barnstable Horace Mann Charter School

730 Osterville-West Barnstable Road

Marstons Mills, MA 02648

Technology Plan

2005 - 2008

www.bhmcs.org



Barnstable Horace Mann Charter School serves all fifth and sixth graders in the Town of Barnstable with innovative learning and assessments. The mission of achieving excellence for all students is our goal. We have a major impact on students' academic, individual, social, and technological skills by creating a school environment, which provides a high quality curriculum, which teaches and demands excellence and prepares the students for successful learning at the Middle School.

Contact Person for this Technology Plan:

Debora R. Morgan

dmorgan@bhmcs.org

Barnstable Horace Mann Charter School
Technology Plan
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Barnstable Horace Mann Charter School
Technology Plan
2005 - 2008

Executive Summary

Barnstable Horace Mann Charter School is an elementary school housing approximately 950 5th and 6th grade students primarily from the Town of Barnstable. This Technology Plan is a guide for the implementation and support of technology throughout the school.

This Technology Plan encompasses a three-year plan and is in line with the Massachusetts Department of Education benchmarks. The purpose of this plan is to assist the staff at BHMCS in evaluating the current and proposed status of technology at our school along with creating a strategy to continue to integrate technology into the curriculum at BHMCS

Technology Planning Team

Barnstable Horace Mann Charter School has a Technology Planning Team. Participants on the team include teachers, principal, business manager, librarian, technology personnel, parents, community representative, and a student.

Technology Director - Debora Morgan
Technology Support Manager - Dan Proto
Technology Support Specialist - Nancy Allen
Technology Assistant - Patti Kelleher
Title One Math Teacher - Patti Connor (teacher)
Classroom Teacher - Pennie Davis
SPED Teacher - Tom O'Connor
Parent - Karen McMahon

Benchmark 1

Commitment to a Clear Vision and Mission Statement

VISION - Excellence for All

The vision of our school is to provide an educational environment for a lifelong community of learners, designed to educate all people to reach their full potential and be able to master the skills, knowledge, and understandings needed to be successful in the 21st century. Our school operates as the social, educational, and human resource center for the entire community. It is designed to teach all the technological, social, and higher order thinking skills that will enable students to be productive individuals.

This is an environment where high expectations for all translates into a place where people learn to work together as critical thinkers and problem solvers, and where differences are respected and the community is enriched.

The Barnstable Horace Mann Charter School is a place designed to meet the assessed needs of the school community and is built on the premise of continuous improvement through a systematic approach. The curriculum is based on the demands of the 21st century. Instruction is designed to meet the multiple learning styles of students, and mastery is based on authentic assessment.

Our school is an exciting, challenging, and rewarding place to be. It is a place to not only create understanding but also to create the paradigms of the future.

MISSION STATEMENT

The purpose of the Barnstable Horace Mann Charter School is to create a school where all children can attain high academic standards and can reach their full potential. We exist in order to teach our students the academic, social, technological, and higher order thinking skills and strategies needed to be successful.

Our mission statement is simply written so that it can be easily understood and stated by our students, staff, and parents. It reinforces our goal of excellence in our school, in the home, and in our community.

The mission of the Barnstable Horace Mann Charter School is to:

- a. Provide all students with academic knowledge and skills needed for future success, by using a rigorous curriculum and high standards.
- b. Guide students in their development of civic responsibility and moral character, so that they will be accountable, resourceful, and respectful citizens, and prepared to be productive members of our society.
- c. Develop a partnership among students, teachers, the parents, and the community, giving all a clear indication of their role in the educational process.
- d. Commit to excellence: Okay is not good enough; good is not good enough; we strive for excellence.

Barnstable Horace Mann Charter School Technology Goals

In order to achieve our Vision, Barnstable Horace Mann Charter School identifies the following goals.

Goal 1: Improve the integration of technology in the curriculum and its effectiveness

Through highly-qualified professional development, staff will continue to incorporate technology into their lesson plans.

The technology staff will continue to model effective integration of technology into the content areas.

Technology mentor program will be developed which pair's classroom teacher to classroom teacher, SPED teacher to SPED teacher, etc, to assist in the integration of technology across all disciplines.

Goal 2: Maintain and improve existing infrastructure

Budget necessary funds to maintain and improve network hardware and software.

Budget full time Technology Support Manager to assist the Technology Director in maintaining and improving existing infrastructure.

Goal 3: Maintain and improve support services

Access to technology for learning shall be available for learners with different learning styles and capabilities through the acquisition and support of hardware and software systems consistent with best-practices in assistive technology and differentiated instruction.

Staff will have the skills necessary to enhance teaching and learning with technology through ongoing professional development workshops, peer mentoring, best practices, and modeling.

Staff will be provided the support necessary to incorporate new technology into classroom instruction to support the Massachusetts Curriculum Frameworks.

All teachers will continue to have a computer available for administrative use, communication with other staff and parents, and to assist in developing electronic report cards.

Continue improvement of technology budgeting and purchasing process to increase our student to computer ratio and work towards the state's benchmark standard of 5:1 student to computer ratio of modern, fully functioning, Internet enabled computers and devices.

Support the alignment of local curriculum guides to State Curriculum Frameworks and lesson plan sharing through the use of technology.

Provide technology support to ensure that all staff receives high-

quality and timely technical support.

Goal 4: Bridge the gap between the "have" and "have nots" through equitable distribution of technology hardware and software both in and out of our school building.

Through a concerted effort to place and capitalize on the power of the Internet - use web-based computing for all facets of technology possible.

Technologies such as an Exchange Server using Outlook on the Web, a web-server with curriculum management software, a web server with curriculum modules and assessment capabilities, and a partnership with a local Internet service provider to offer dial-up access to those less fortunate families.

Refurbished computers would be loaned to the families.

Barnstable Horace Mann Charter School will work towards achieving its goals by implementing the following technology enhancements:

Study Island subscription for Reading, Science and Math MCAS preparation. This will allow our Grade 5 students to practice reading, math and science skills and our Grade 6 students to practice math skills. Study Island material is aligned with the Massachusetts State Frameworks and allows the children to practice questions in a format similar to those found on the MCAS test.

Plato Learning along with the K-12 Assessment program will be used to first assess our students' strengths and weaknesses, and then provide a prescription of lessons for each child. All access is through the Internet

Investigate the possibility of offering at home Internet access for those families who cannot afford to provide their children access.

Increasing access to computers for our students with the continued addition of COWS (Computer on Wheels). Our goal is to have all children using technology on a daily basis.

The continued support of GradeQuick Software to enable teachers to do attendance, grading and report cards digitally.

The implementation of a full-integrated curriculum management software program using Microsoft Class-Server as the backbone.

Subscription to Brain POP for classroom use.

Subscription to United Streaming video-on-demand service.

Subscription and support of an online Special Education reporting procedures with an active link to our student administration program.

Investigate assistive technology devices for SPED and include them in our hardware purchases.

Investigate site license subscriptions to teacher sites for curriculum-related materials.

Continued expansion of after-school programs including - MCAS Support Program, Cape Cod Junior Technology Program and computer classes for students through the local 4-H Program.

Work collaboratively with Barnstable School District and the Barnstable Horace Mann Charter School to ensure cohesiveness in technology among the Barnstable schools.

Budget

Barnstable Horace Mann Charter School has a line item for technology in our operational budget.

When purchasing hardware and software, we include items that facilitate access to technology for students and staff with disabilities.

Barnstable Horace Mann Charter School will employ the use of state, federal, and private resources. We have also participated in the Mass State Surplus Program.

	SCHOOL YEAR 05-06			SCHOOL YEAR 06-07			SCHOOL YEAR 07-08		
	Operational	Grant Funded	Total	Operational	Grant Funded	Total	Operational	Grant Funded	Total
Salaries	144,577	11,320	155,897	148,914		148,914	153,381		153,381
Prof Dev		33,000	33,000	0	14,688	4,688		4,688	4,688
Hardware	30,000	52,616	82,616	30,900		30,900	60,900		60,900
Software	22,000		22,000	22,660	8,700	31,360	30,000	2,263	32,263
Supplies	9,282		9,282	9,561	8,812	18,373	6,100		6,100
Other	4,029	12,978	17,007	4,150		4,150	5,000		5,000
Total	224,853	109,914	334,767	231,599	32,200	263,798	255,381	6,951	263,332

Evaluation and Monitoring of Technology Plan

In order to evaluate the effectiveness of our technology resources and monitor the progress of our Technology Plan, Barnstable Horace Mann Charter School will provide the following Internal Evaluations:

- Principals' Needs Assessment Survey
- Technology Department Survey
- Parent Survey
- DOE's Technology Self-Assessment Tool (TSAT)

Benchmark 2 Technology Integration Teacher and Student Use of Technology

We are working towards the goal of 100% of teachers using technology everyday

We are working towards the goal of 95% of teachers using appropriately with students each week: multimedia, research, simulations, data interpretations, communications

We are working towards the goal of 95% of the teachers working to meet the proficiency level in technology as defined in the TSAT

We have a Student Acceptable Use Policy. We have received 100% return on our Acceptable Use Policy forms.

We have a Staff Acceptable Use Policy. We have received 100% signed returns from our staff.

We will work towards these goals with the continuation of our professional development plan that has been in effect for two years.

A survey will be distributed to all teachers at the end of every school year to determine their use of technology for administrative purposes and with students in the classroom.

The TSAT form will be distributed to all teachers at the end of every school year to determine their TSAT levels.

Benchmark 3 Technology Professional Development

Barnstable Horace Mann Charter School initiated a professional development program for the teaching staff. With technology changing so rapidly, there will always be a need for training and curriculum integration support.

Professional development is held on-campus for the staff at Barnstable Horace Mann Charter School which covers technology skills and the integration of technology into the curriculum.

Our technology professional development program is sustained and has been ongoing since school year 1999-2000 and includes focused workshops, peer mentoring, best practices, and modeling.

Professional development planning includes an assessment of the teachers' needs at Barnstable Horace Mann Charter School in addition to feedback from the Principal and Teaching Staff. Each year, every teacher is assessed based on the competencies listed in the Massachusetts Technology Self-Assessment Tool. Professional Development for the year is then determined

on the needs based on their TSAT and feedback from the Principal and Teaching Staff.

Year 2002-2003 Staff members received 20 hours of professional development.

Year 2003-2004 Staff members received 24 hours of professional development.

Year 2004-2005 Staff members received 22 hours of professional development.

Year 2005-2006 Staff members received 20 hours of professional development.

Year 2006-2007 staff members received an average of 25 professional development hours.

Barnstable Horace Mann Charter School will work towards the goal of providing each teacher with 45 hours of professional development by the end of school year 2007-2008.

Benchmark 4 Accessibility of Technology

DOE Requirements

Technical Support

Commitment to provide timely tech support

Network Administrator

Full-time person to support 100-200 computers.

Barnstable Horace Mann Charter School ensures that every administrator, teacher, and student receives high-quality user and system support. At the present time, our Technology Support Manager directs the support with assistance from the Technology Specialist, Technology Assistant, Director of Technology and the Student Technology Team. In addition, we have a on-going contract with TenCorp to support our network if problems arise which are out of our scope of expertise.

Our building's electrical service is sufficient to support the computers and networks installed.

DOE Requirements

Students per Instructional Computer

Average ratio of fewer than 5:1 high capacity, Internet connected computer.

Portable/handheld appropriate to grade level

Establish a computer replacement cycle of 6 years or less

We currently have a handheld for the Principal, Assistant Principals and two Prevention Specialists. They are being used presently for immediate access to student database records.

We currently have 360 AlphaSmart devices in 14 portable carts. The AlphaSmart devices help the children organize and complete their writing assignment without ever leaving their desks except to transfer their assignment to a printer.

Instructional Workstation Inventory

Barnstable Horace Mann Charter School conducted an inventory of computer equipment for July 1, 2004 through July 30, 2005. Inventory is as follows:

Type A: 193 High-End Computers

Multimedia computer capable of running virtually all current software, including the latest high-end video and graphics programs.

Memory: 256MB RAM or higher

Processor: PC Pentium 4 (or equivalent); Macintosh G4 (or equivalent)

Type B: 123 Average Computers

Multimedia computer capable of running most software except for the latest video and graphics programs.

Memory: 128MB to 256MB RAM

Processor: PC Pentium III (or equivalent); Macintosh G3 (or equivalent)

Type C: 16 Low-End Computers

Multimedia computer capable of running most current productivity applications.

Memory: Less than 128MB RAM

Processor: PC Pentium II or lower; Macintosh PowerPC 604e or lower

Number of Students Enrolled in Grade 5-6 at Barnstable HMCS: 956

Student:Computer Ratio (Type A/B Computers) 3.0

Benchmark 5

Infrastructure for Connectivity

Internet Access

Internet Access is available to all classrooms.

10/100MB to each classroom.

Barnstable Horace Mann Charter School uses two platforms: Macintosh Operating System and Windows Operating System (majority are Windows XP).

Each classroom has a PC computer, which is "network ready" meaning that it has an Ethernet NIC (Network Interface Card) installed and designed for an RJ45 network jack. There is one network drop, which enables, at this time, one computer in that particular classroom to be connected to the network. We have initiated a plan to install a six-port hub in every classroom in order to enable multiple Internet connections in the classroom if the teacher has an adequate computer to connect to the Internet.

Our two Technology Labs have 26 Type A Internet-connected computer in each. We also purchase two wireless mobile labs with grant funds .

The network topology used at Barnstable HMCS is a tree topology which combines the linear bus and star topologies. The media type used in our network is Twisted Pair (UTP) CAT5 in the building and fiber optic between the buildings.

Barnstable Horace Mann Charter School has recently purchased three servers: one Exchange Server, one Microsoft Class Server and one Domain Controller.

Each teacher has a network account with login id and password along with an e-mail account which allows them to e-mail anyone in the school district or anyone with an Internet e-mail account.

Benchmark 6:

Access to the Internet outside the School Day

Barnstable Horace Mann Charter School maintains an up-to-date web site at <http://www.bhmcs.org>. Every educator has access to the Internet and an Internet e-mail account with the capability of sending and receiving e-mail.

The district works with community groups to ensure that students and staff have access to the Internet outside of the school day.

Current and Proposed Status of Benchmarks

The following pages list the current and proposed alignment with the Massachusetts Department of Education benchmarks by Barnstable Horace Mann Charter School.

Benchmark Standard 1: Commitment to a Clear Vision and Mission Statement	
A. The district has a realistic and clearly stated set of goals.	Current: The current goals for technology are outlined in our Local Technology Plan 2004-2007. Proposed: The goals will be continually reviewed by the Technology Team and correlated with our school accountability plan.
B. The district has a technology team.	Current: Barnstable Horace Mann Charter School has a technology team in place to create and review the technology plan. Representatives are from a variety of stakeholders. Proposed: The technology team will continually update member status to reflect the changes occurring at the school.

<p>C. The district has a budget for its local technology plan. The district's operational budget includes a line item for technology. Budgets should also reflect a line item for equipment and software that facilitate access to technology for students and staff with disabilities.</p>	<p>Current: Barnstable HMCS has a line item for Technology in the operational budget and this line item includes accessibility options. Barnstable HMCS leverages the use of state, federal, and private resources.</p> <p>Proposed: Barnstable HMCS will continue with this practice.</p>
<p>D. The district evaluates the effectiveness of technology resources and monitors the progress.</p>	<p>Current: Barnstable HMCS evaluates the effectiveness of the technology resources with a principal's needs assessment survey, parent survey, technology department survey, and the Massachusetts DOE TSAT.</p> <p>Proposed: Barnstable HMCS will continue with this practice.</p>

<p>Benchmark Standard 2: Technology Integration</p>	
<p>A. Teacher and Student Use of Technology:</p> <ul style="list-style-type: none"> • 85% of teachers using technology everyday. • 85% of teachers using technology appropriately with students each week. • 90% of the teachers working to meet the proficiency level in technology as defined in the TSAT. • Acceptable Use Policy 	<p>Current: Barnstable Horace Mann Charter School has initiated a professional development plan to educate the staff on ways to integrate the technology into the curriculum and how to use the technology efficiently and effectively both for administrative and teaching purposes.</p> <p>Barnstable Horace Mann Charter School uses the Barnstable School District Acceptable Use Policy for our students. We will continue with our professional development plan and work towards the DOE benchmark goals. We have composed a survey for our staff which has been filled out at the beginning of this year and will be filled out again at the end of the year to see the changes.</p>

<p>B. Technology Staffing:</p> <ul style="list-style-type: none"> • 1 FTE Technology Director • 1 FTE Instructional Technology Teacher per 40-80 instructional staff • 1 FTE for data management and assessment. 	<p>Current: We currently employ a Director of Technology, a Technology Support Manager, one full-time Technology Specialist and one full-time Technology Assistant..</p> <p>Proposed: We will continue with our current staffing.</p>
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Benchmark Standard 3: Technology Professional Development	
<p>A. By the end of 2006-2007 school year, at least 85% of district staff will have participated in 45 hours of high quality technology professional development.</p>	<p>Current: Barnstable Horace Mann Charter School has initiated a professional development program for the teaching staff which has been in effect for 7 years. Barnstable HMCS will continue with the practice of providing technology professional development for the staff.</p>
<p>B. Technology professional development is sustained and ongoing.</p>	<p>Current: Barnstable Horace Mann Charter School has initiated a professional development program for the teaching staff which has been in effect for 2 years.</p> <p>Proposed: Barnstable HMCS will continue with the practice of providing technology professional development for the staff.</p>
<p>C. Professional Development is determined by assessment of teacher needs based on TSAT.</p>	<p>Current: Barnstable Horace Mann Charter Schoolteachers have filled out the TSAT form for the last two school years and will again fill out the TSAT form at the end of this year. The results of the TSAT forms will assist us in determining our professional development needs for the next year.</p> <p>Proposed: Barnstable HMCS will continue with the practice of providing technology professional development for the staff and assessing the staff with the TSAT form.</p>

Benchmark Standard 4: Accessibility of Technology	
<p>A. Students per instructional computer</p> <ul style="list-style-type: none"> • Average ratio of fewer than 5:1 high capacity, Internet connected computer. • Portable and/or handheld electronic devices • Establish a computer replacement cycle of 6 years or less. 	<p>Current: Barnstable Horace Mann Charter School currently has a ratio of 8:2 for its student:computer ratio. We currently have a handheld for the Principal and Technology Specialist. We currently have 85 AlphaSmart devices for use by our Grade 3 and Grade 4 students.</p> <p>Proposed:</p> <p>We will work towards the goal of bringing our student:computer ratio to be more in-line with the DOE recommended number. We will focus on purchasing 20 to 25 Type A computers per year in order to increase our Type A workstation inventory.</p>
<p>B. Technical Support</p> <ul style="list-style-type: none"> • Commitment to provide timely tech support. • Network Administrator • Full-time technical support person to support 100-200 computers. 	<p>Current:</p> <p>Barnstable Horace Mann Charter School employs a Technology Specialist and Technology Assistant. Both provide support to the staff.</p> <p>We have a district network coordinator and assistant network coordinator to maintain our network and to provide additional assistance, if needed.</p> <p>Proposed:</p> <p>We will continue with our current staffing. However, as our inventory increases, we will look at the staffing for technical support and address this need at that time.</p>

Benchmark Standard 5: Infrastructure for Connectivity	
<p>A. Internet Access Internet Access is available to all classrooms. 10/100Mb to each classroom.</p>	<p>Current: Each classroom at Barnstable Horace Mann Charter School has a PC computer, which is "network ready" and is connected to the Internet. With our existing equipment, we have 100Mb enabled to each classroom.</p> <p>Proposed: We have initiated a plan to install a six-port hub in every classroom in order to enable multiple Internet connections in the classroom if the teacher has an adequate computer to connect to the Internet.</p>

<p>B. Networking/LAN</p>	<p>Current: Barnstable Horace Mann Charter School is part of the Barnstable School District Network.</p> <p>Proposed: Barnstable HMCS will continue with our existing network. We will utilize our server which we recently purchased for our student administration database. In addition, the server will provide a directory area for each teacher.</p>
<p>C. Portable and E-Learning Environment District</p> <ul style="list-style-type: none"> • Encourages the development and use of innovative strategies for delivering specialized courses through the use of technology. • Deploys IP-based and or ISDN-based connections for access to web-based and/or interactive video learning. • Classroom applications of e-learning include courses, cultural projects, virtual field trips, etc. 	<p>Current: Barnstable Horace Mann Charter School at the present time does not deliver specialized courses through the use of technology. Barnstable Horace Mann Charter School at the present time does not utilize web-based and/or interactive video learning. Barnstable Horace Mann Charter School has included as part of the professional development last year information on virtual field trips.</p> <p>Proposed: Barnstable HMCS will continue to provide the staff with information and professional development on classroom virtual field trips.</p>

<p>Benchmark Standard 6: Access to Internet outside the School Day</p>	
<p>A. Up-to-date Web Site</p>	<p>Current: Barnstable Horace Mann Charter School currently has an up-to-date web site at www.bhmcs.org. Our web site is updated weekly and is currently used as a communication tool for the Barnstable community.</p> <p>Proposed: We will maintain our web site in order to keep the latest communication available to the community. We will continually work to improve our web site.</p>
<p>B. Works with Community Groups - Staff and Students have Internet access outside of the school day</p>	<p>Current: Barnstable Horace Mann Charter School has worked to ensure that there is available access outside of the school day for students to access the Internet. There is a published list on our web site of community groups that have Internet use available outside of the school day.</p> <p>Proposed: We will continue to maintain this published list.</p>

<p>C. Web site lists places where students and staff can access the Internet</p>	<p>Current: Barnstable Horace Mann Charter School has worked to ensure that there is a published list on their web site of community groups that have Internet use available outside of the school day.</p> <p>Proposed: We will continue to maintain this published list.</p>
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Information contained on the following pages has been obtained from the Massachusetts Department of Education website and is available in full at: <http://www.doe.mass.edu/edtech/standards/itstand.pdf>

Technology skills are grouped under three grade spans:

- PreK - Grade 4
- Grades 5 - 8
- Grades 9 - 12

PERFORMANCE INDICATORS FOR GRADES 5 - 8

By the completion of eighth grade, students should demonstrate basic to intermediate-level competencies in using applications such as word processing, database, spreadsheet, browser, presentation, and graphics software. They will be familiar enough with the purpose and function of these technologies to enable them to select the appropriate tool for a task. By eighth grade students will understand concepts of networking and they will be able to identify various components of a computer system. They will be expected to practice good file management skills and to operate peripheral equipment independently. As soon as students begin using the Internet for research they should be taught effective search strategies. Rather than relying on one Web site for information they should use multiple sites and they should know how to validate those sites. Further, they should know when to look for information offline, rather than to rely solely on the Internet for sources. Finally, they should understand legal, ethical, and safety issues concerning the use of e-mail and the Internet. By the end of eighth grade students will have had ample opportunity to apply technology tools for research, problem-solving, and communication across all curriculum areas. They will know how to communicate their learning with peers and other audiences through multimedia presentations, desktop-published reports, and other electronic media.

Instructional Technology Standards

Standard 1. Demonstrate proficiency in the use of computers and applications as well as an understanding of concepts underlying hardware, software, and connectivity.

GRADE LEVEL PERFORMANCE INDICATORS

GRADES 5 – 8

By the end of 8th grade students should:

(Continue to address earlier skills as needed.)

- 1.11 Identify components of a computer system, understand their functions, and use appropriate terminology in speaking about them (e.g., operating system, hard drive, memory, window).
- 1.12 Identify and use basic features of a computer operating system (e.g., format/initialize disks, access information on size and format of a file, create folders on local hard drive).
- 1.13 Save a file to the desktop, the hard drive, and external storage spaces (e.g., floppy disk, CD-ROM, virtual electronic space).
- 1.14 Select a printer and print a document with appropriate page setup and orientation.
- 1.15 Operate peripheral equipment (e.g., scanner, digital camera, camcorder).
- 1.16 Develop efficient keyboarding technique.s
- 1.17 Identify and use editing and formatting features of a word processing program (e.g., centering, line spacing, margins, cut and paste, fonts, styles, spelling, page numbers).
- 1.18 Insert images (e.g., graphics, clip art, tables) from other files into word-processed document.
- 1.19 Describe structure and function of database and identify components (e.g., record, field).
- 1.20 Create an original database, defining field formats and adding new records.
- 1.21 Perform simple operations in a database (e.g., browse, sort, search, delete, add data).
- 1.22 Describe structure and function of spreadsheet (e.g., cells, rows, columns, formulas) and apply formatting features.
- 1.23 Create an original spreadsheet, entering simple formulas.
- 1.24 Produce simple charts from spreadsheet.

Standard 2. Demonstrate responsible use of technology and an understanding of ethics and safety issues in using electronic media.

GRADE LEVEL PERFORMANCE INDICATORS

GRADES 5 – 8

By the end of 8th grade students should:

(Continue to address earlier skills as needed.)

- 2.6 Explain and demonstrate understanding of classroom rules regarding responsible use of computers (responsible behavior around equipment, respect for other people's work, and appropriate collaborative behavior).
- 2.7 Explain and demonstrate ethical and legal behavior in copying files,

applications, and media.

2.8 Explain potential problem of computer viruses and exercise caution in opening e-mail attachments from unknown sources. (Use of e-mail is at district discretion.)

2.9 Explain safe practices for sharing personal information via e-mail and the Internet. (Use of e-mail is at district discretion.)

2.10 Explain proper e-mail etiquette. (Use of e-mail is at district discretion.)

2.11 Describe and demonstrate knowledge of the school's Acceptable Use Policy, and know the consequences of violating that policy.

2.12 Validate a Web site for authenticity (e.g., find site sponsor, author, and date the site was last updated).⁸

2.13 Explain how media and technology can be misused to distort or exaggerate information.

2.14 Write correct citations for text and images gathered from electronic sources. Understand that use of materials is limited by the fair use rule of copyright law.

2.15 Develop an awareness of the issue of ergonomics (e.g., Repetitive Stress Injuries) and how to use equipment safely.

Standard 3. Demonstrate ability to use technology for research, problem-solving, and communication. Students locate, evaluate, collect, and process information from a variety of electronic sources. Students use telecommunications and other media to interact or collaborate with peers, experts, and other audiences.

GRADE LEVEL PERFORMANCE INDICATORS

GRADES 5 – 8

By the end of 8th grade students should:

(Continue to address earlier skills as needed.)

3.6 In keeping with the research process outlined in Standard 24 of the English Language Arts Curriculum Framework, identify electronic sources of information (e.g., Internet, CD-ROM, online periodical databases, and online catalogs).

3.7 Use search engines effectively to find relevant, unbiased, and current information on a subject. (Standard 2 performance indicators apply—i.e., evaluate Web sites and write correct citations for sources.)

3.8 Organize information that is collected using a variety of tools (e.g., spreadsheet, database, saved files).

3.9 Communicate results of research and learning with others using the most appropriate tools (e.g., desktop-published or word-processed report, multimedia presentation).¹²

3.10 Manipulate data using charting tools and graphic organizers (e.g., concept mapping, flow charting, and outlining software) to connect ideas and organize information.

3.11 Under teacher's guidance, and at discretion of district, use e-mail to communicate with others (e.g., students in other classrooms, experts in a subject, teachers).