PETERSHAM CENTER SCHOOL

PETERSHAM SCHOOL DISTRICT

Technology Plan

July 1, 2011 - June 31, 2016

1. Introduction

This technology plan represents the collaborative efforts of the school's Technology Specialist, the school Principal, and the Technology Director for our consolidated district. The plan addresses the following standards and benchmarks as referenced in three documents:

1) **Massachusetts Technology Literacy Standards and Expectations**
http://www.doe.mass.edu/edtech/standards/itstand.pdf
2) **Assistive Technology Guide for Massachusetts Schools**
http://www.doe.mass.edu/edtech/assistive/ATguide.pdf
3) ***Massachusetts STaR (School Technology and Readiness) Chart*** http://www.doe.mass.edu/boe/sac/edtech/?section=star

2. Background Information

Petersham Center School, located in Petersham, Massachusetts, serves children in grades K-6, and enrolls approximately 115 students. In 2004, the town completed expansion and renovation of its elementary school building adding approximately 25,500 square feet which currently houses classrooms, cafeteria and kitchen facilities, and a gymnasium. On July 1, 2011, Petersham Center School consolidated its central offices with those of the Ralph C. Mahar Regional School, and the Orange Elementary Schools, both located in Orange, Massachusetts.

3. Technology Benchmarks

Benchmark 1: Commitment to a Clear Vision and Mission Statement

B1.A. Mission, Vision, and General Technology Goals

School Mission

The Petersham Center School family is committed to providing an environment in which the needs of all the children are met, enabling them to develop to their fullest potential. We stress a curriculum enriched with opportunities to develop academic, social and physical skills; taking into consideration the individual differences and needs of every child.

The school provides the living and learning experiences for each student to attain the abilities necessary to meet future educational aspirations and to become a productive citizen in our society. We foster a stimulating, positive atmosphere that challenges each child to think responsibly while promoting creativity and intrinsic motivation. The ideals of cooperation, caring, and respect are encouraged in school, at home, and within the community.

School Vision

Petersham Center School envisions a quality learning environment that fosters personal growth, helps students achieve their fullest potential, and values academics, the arts, athletics, and the development of responsible global citizens.

Technology Vision Statement

We envision using technology to further a learning community where:

Students are engaged in a challenging curriculum that is focused on inquiry-based, hands-on learning. Students are comfortable using technology. Students take responsibility for their own educational success.

Teachers use technology to support all learning across the curriculum. They function as coaches, mentors, advocates, and managers of information. Through on-going and comprehensive professional development, all teachers acquire the knowledge and skills to integrate technology into a challenging and interdisciplinary curriculum which addresses students' specific needs, developmental levels, and learning styles.

Administrative functions, including those performed by instructional staff, are fully automated, thereby allowing more of the school system's energy and resources to be focused on student education.

The school becomes an environment where all students and staff have ready access to a full range of current technology, software tools, and applications. The school has knowledgeable staff and external resources (such as parents, community members, business, higher education, and network resources) to further the curriculum goals.

Technology Goals for 2011-2016:

GOALS:

- Expand the use of computers as cognitive tools that enhance, extend, amplify and restructure the way students think
- Ensure that we have sufficient assistive technology tools to meet the needs of our diverse learners
- Explore new ways in which technology can help make learning more accessible for all students
- Identify new ways to make more effective use of the Internet and Web 2.0 tools for teaching and learning
- Identify and refine grade level competencies for fundamental computer skills, keyboarding, word processing
- Continue to implement a computer literacy program that provides students with the opportunity to develop an understanding of technology and how it can enhance the learning process
- Continue to provide technical assistance and professional development to instructional staff to assist with integrating technology and instruction
- Continue to provide technical assistance and professional development to the Technology Specialist to ensure that students and staff have a positive experience when working within the technology program
- Continue to maintain and regularly update the school Web site with news and important information about the school
- Continue to evaluate the school's technology resources in relation to district educational goals to ensure the technology line items in the budget include sufficient funding for staffing, hardware, software, professional development, technical support, annual maintenance contracts, and contracted services that meet the needs of students, teachers, and administrators at the school
- Create a formal plan for technology hardware and software upgrades
- Establish a technology team to evaluate the implemented program and its effectiveness

Instructional Technology Goals for 2011-2016

In our efforts to foster higher-order thinking, reinforce inquiry-based learning, and synchronize lab activities with instruction in the K-6 classrooms, we will continue to strengthen and develop our technology curriculum to align with content standards set by the state for all subject areas across all grade levels.

With the Massachusetts Technology Literacy Standards and Expectations as our guide for the technology program at the school, we teach students the skills they need to:

1. Demonstrate proficiency in the use of computers and applications, as well as an understanding of concepts underlying hardware, software and connectivity (*Standard 1)*
2. Demonstrate responsible use of technology and an understanding of ethics and safety issues in using electronic media (*Standard 2)*
3. Demonstrate an 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. (*Standard 3*)

We will continue to incorporate computer technology into the curriculum at every grade level. We currently provide instruction in word processing, spreadsheet operations, electronic presentations using presentation software such as PowerPoint, as well as Web 2.0 programs such as Glogster (http://edu.glogster.com). We also provide instruction in scanning, image editing, file management, keyboarding, and Internet research. Students learn to operate and take care of the equipment. They also learn about the social, ethical, and legal issues surrounding the use of technology (including copyright, plagiarism, and personal safety). We will continue to refine grade level competencies for fundamental computer skills and provide all students the opportunity to explore and experience existing and emerging technologies.

B1.B. Technology Team

Our technology team consists of the School Principal, the school Technology Specialist, and the Director of Technology for our consolidated district. Our goal for 2011-2016 is to expand this team to include classroom teachers, other staff members, parents and community members. It is our goal that our technology team represents a variety of backgrounds and interests to address the needs of an increasingly diverse student population.

B1.C. Budget-Technology Expenditures (July 1, 2011-June 30, 2016)

We will continue to include line items for technology staffing, hardware, software, professional development, support and contracted services in the school's operational budget whenever funds permit, leveraging the use of federal, state, and private resources to supplement our technology budget needs whenever possible.

B1.D. Evaluation

Each year, the school Technology Specialist, the Principal and the Technology Director for the consolidated district will evaluate the progress the school has made in implementing its technology plan in an effort to learn from past lessons, review our progress in meeting state and local technology benchmarks, and consider revisions in relation to changes in local curriculum, technology, policy (local, state, and national level), financial circumstances and any other relevant developments. We will consult with classroom teachers to determine both curriculum and instructional technology needs

and technology professional training needs. Ongoing discussions will take place throughout the year at staff meetings where teachers are invited to express their technology needs and make contributions to our Technology Plan.

The school Technology Specialist currently keeps an updated inventory of school hardware and software, ensures that all maintenance agreements with technology vendors are renewed and/or updated and stays alert to infrastructure needs.

Benchmark 2: Technology Integration

B2.A Teacher and Student Use of Technology

Currently, all students and teachers have access to computers in their classrooms and in the computer lab. We estimate that:

1. Outside the Classroom: 100% of teachers use technology nearly every day for professional activities, lesson planning, administrative tasks, communications and collaboration.
2. Within the Classroom: 85% of teachers use instructional technology with students each week for activities such as research, multimedia tutorials, data interpretation, image editing, and communications.
3. 100% of students in grade 3 have mastered the skills listed in the Massachusetts Technology Literacy Standards and Expectations for Grades K to 2.
4. 95% of students in grade 5 have mastered the skills listed in the Massachusetts Technology Literacy Standards and Expectations for Grades 3 to 5.
5. 80% of students in grade 6 have mastered the skills listed in the Massachusetts Technology Literacy Standards and Expectations for Grades 6 to 8.
6. The district has a CIPA - compliant Acceptable Use Policy regarding internet use.

Overview of CIPA Compliance

"…CIPA was signed into law on December 21, 2000. Under CIPA, no school or library may receive discounts unless it certifies that it is enforcing a policy of Internet safety that includes the use of filtering or blocking technology (see below). This Internet Safety Policy must protect against access, through computers with Internet access, to visual depictions that are obscene, child pornography, or (in the case of use by minors) harmful to minors. The school or library must also certify that it is enforcing the operation of such filtering or blocking technology during any use of such computers by minors. The law is effective for Funding Year 2001 (07/01/2001 to 06/30/2002) and for all future years" (http://www.fcc.gov/cgb/consumerfacts/cipa.html).

We have a firewall (SonicWall) to protect our network. This Internet appliance is outfitted with a content filter that blocks inappropriate sites. SonicWall maintains and regularly updates its content filtering database. It automatically passes those updates through to our firewall device. Each year, to remain compliant with CIPA regulations, we renew our content filtering subscription and block access to inappropriate sites whenever necessary.

B2.B. Staffing

Petersham Center School has a full-time Technology Specialist.

The job responsibilities include:

- Work with students and teachers to implement the technology curriculum
- Maintain the school-wide network
- Perform regular backups of mission critical data stored on various servers
- Install Operating System updates, patches, and fixes
- Install applications, software maintenance updates, patches, upgrades, and fixes
- Provide software and hardware training to teachers, instructional aides, paraprofessionals, administrators, and students
- Purchase, set up and install new computers (and other hardware) and ensure all works well and connects to the school network
- Set up all workstations for Internet access
- Maintain a firewall to keep out malicious intruders and safeguard network security
- Implement Internet filtering in compliance with CIPA (Children's Internet Protection Act)
- Help teachers, instructional aides, paraprofessionals and staff with software and hardware problems and questions
- Troubleshoot equipment problems and software glitches and obtain technical support if necessary
- Ensure malfunctioning equipment is either repaired or replaced
- Create, maintain, and update the school Web site
- Attend professional and MA DOE workshops and meetings to represent the school and keep up with important new developments in educational technology
- Develop and teach technology projects aligned with classroom curriculum and Massachusetts' learning standards
- Provide teachers with strategies on how technology can be used to achieve the learning standards
- Establish an environment encouraging creative and independent use of instructional technology
- Coordinate and provide training to school staff in network and software use. Coordinate activities of outside vendors, consultants, and trainers.
- Model effective use of technology in the classroom and media center for teachers and students.
- Facilitate the use of existing and emerging technology by staff and students.

Benchmark 3: Technology Professional Development

Technology Professional Development provided by our District

Petersham Center School staff believes that educators at the school should be prepared to meet the following technology standards and performance indicators:

- Demonstrate a sound understanding of technology operations and concepts
- Plan and design effective learning environments and experiences supported by technology
- Implement curriculum plans that include methods and strategies for applying technology to maximize student learning
- Apply technology to facilitate a variety of effective assessment and evaluation strategies
- Use technology to enhance productivity and professional practice
- Understand the social, ethical, legal, and human issues surrounding the use of technology in K–6 schools and apply that understanding in practice

To facilitate technology integration across the curriculum, we provide technology training, drawing on concepts of universal design and research-derived models to help teachers and staff:

- Plan, design, and implement effective technology-rich learning environments and instructional strategies
- Create lessons and implement instructional activities comprising methods and strategies for utilizing technology to maximize student learning
- Use computers to communicate, locate, and manage information and foster the learning of core educational content
- Utilize technology strategies in assessment and evaluation, and
- Harness technology to improve personal productivity and optimize professional practice.

In 2011-2016, we will continue to offer workshops for staff and expect 100% participation in these workshops. We will also continue to provide hands-on interactive workshops delivered on an as-needed basis.

Topics Covered in Technology Training and Professional Development

Currently, 85% of out teachers use technology in their classrooms with students on at least a weekly basis. We are happy to report that several of our teachers use classroom technology with students on a daily basis. Our goal is to attain the following rates of weekly teacher classroom technology use with students: 90% for the 2011-2012 school

year, 95% for the 2012-2013 school year, and 100% for the 2013-2014 school year and the years beyond. We will accomplish this goal by giving teachers and staff experience with a variety of technology tools, operations and concepts so that they may draw on this toolkit as they plan their lessons, design developmentally appropriate learning opportunities, and enhance instructional effectiveness. In addition, all instructional staff will complete the Technology Self-Assessment Tool (TSAT) to help identify individual professional development needs.

Professional Development Workshops offered during the 2011-2016 school year will focus on:

- Polyvision Interactive whiteboard applications and use
- Use of digital projectors as classroom tools
- Use of Google Docs and other Web 2.0 tools to facilitate staff communication and student learning.
- Use of OpenOffice word processing, presentation, spreadsheet, and database applications with students.

Benchmark 4: Accessibility of Technology

B4.A. Students per Instructional Computer

With careful budgetary planning, we were able to purchase ten student laptops in July of 2010. In addition, we upgraded the memory in all but four of our student computers from 256 MB to 1 GB. This has dramatically increased the ratio of students to type A computers. Prior to the 2010-2011 school year, almost all of our students were using type B computers. With the purchase of student laptops and the upgrades in memory, we have increased the ratio of students to Type A computers to 3:1. All of our 20 lab computers are Type A, hence the ratio of students to Type A computer while working in the computer lab setting is 1:1.

In July of 2010, we also purchased four Polyvision interactive whiteboards. Currently there is one interactive whiteboard in Grades 4-6. Our goal is that during the 2011-2016 period, each classroom, as well as the library, will have an interactive whiteboard or interactive projector.

Replacement Cycle

Adequate availability of computer hardware and software is essential for successful implementation of Petersham Center School's technology program. New system software and updated computer applications constantly add features that require more powerful computers with additional memory rendering some of our technology useless.

Whenever possible we attempt to repair a device ourselves. When warranties expire and equipment stops working, it's often more economical to retire the equipment than repair

it. Whenever we can, we disassemble older non-working computers to remove working components and keep those items on hand to use for replacement purposes.

We will draft a plan for *Technology Equipment Upgrade and Replacement* describing purchase, upgrade and replacement policies for computers.

B4.B. Technical Support

At Petersham Center School, we make a commitment to provide timely in-class technical support with clear information on how to access this support so that technical problems do not cause major disruptions in curriculum delivery. We offer application technical support on an *as needed* basis whenever teachers, instructional aides, paraprofessionals and staff ask questions about or have problems with software installed on their computers. When equipment malfunctions, our Technology Specialist troubleshoots the issue and resolves the problem as quickly as possible, usually within two days.

During the 2010-2011 school year Petersham Center School implemented an online technology support system which allows staff to report problems remotely to the Technology Specialist. The technology support system also allows the technology support specialist to easily document technology issues and communicate with the staff regarding these issues.

Benchmark 5: Infrastructure for Connectivity

B5.A. Internet Access

We have a DSL connection for Internet access. Computers in all classrooms and administrative offices can access the Internet through our school LAN (local area network), which supports data transfers rates of 1.5Mbps (megabits per second). Network switches, router, and firewall are all adequate at this time.

B5.B. Networking (LAN/WAN)

a Petersham Center School provides a minimum of 10/100 MB Cat 5 switched network and has implemented an 802.11g access node for wireless hookup. We have three wireless access points. Currently, all of our laptops access our network wirelessly.
b The school provides services for secure file sharing, backups, email and Web publishing.

B5.C. E-Learning Environments

Petersham Center School currently uses WebEx to facilitate professional development for staff. We have used online tools for student collaboration, such as Google Docs. We are investigating the use of Skype and other synchronous communication technologies to facilitate communication and collaboration between schools, both for students and staff.

In addition, we are considering the benefits of these technologies in curricular activities, such as virtual field trips.

Benchmark 6: Access to the Internet outside the School Day

A. Petersham Center School maintains an up-to-date Web site with information for students, parents and staff.

B. Our goal is to post information on our website letting students and parents know where they can access the Internet outside of school hours.