Barnstable Public School District
Strategic Technology Action Plan
2013-2016

District Name:	Barnstable Public Schools
LEA Code:	020
Contact Person:	Bethann R. Orr, M.Ed., CAGS
Address:	District Technology Department 230 South Street Hyannis MA 02601 Orr_Bethann@Barnstable.k12.ma.us
District Website:	http://www.barnstable.k12.ma.us

Click on the image for the BPS ED TECH website

"Excellence can only be attained if you care more than others think is wise, risk more than others think is safe, dream more than others think is practical, and expect more than others think is possible. " …… (Unknown)

Organization

Organizational Structure

District Demographics

Demographics for Barnstable Public Schools are updated yearly and posted by the Massachusetts Department of Education on their website.

Barnstable Public Schools Contact Information

Barnstable Public Schools
Administration Building
230 South Street
Hyannis, MA 02601
508.862.4953
www.barnstable.k12.ma.us

District Technology Office
Barnstable High School
744 West Main Street
Hyannis, MA 02601
508.790.2813

Dr. Mary Czajkowski, Superintendent
DrC@barnstable.k12.ma.us
508.862.4953

Marie McKay, Assistant Superintendent
McKay_Marie@barnstable.k12.ma.us
508.862.4953

Bethann Orr, Director of Technology
Orr_bethann@barnstable.k12.ma.us
508.862.4958

School Committee Contact Information

School Committee Members:	Term Expires
R. Patrick Murphy e-mail: Murphy_Patrick@barnstable.k12.ma.us	November, 2015
Chris Joyce e-mail: Joyce_Chris@barnstable.k12.ma.us	November, 2015
Francis McDonald e-mail: McDonald_Fran@barnstable.k12.ma.us	November, 2015
Stephanie Ellis - Vice Chair e-mail: Ellis_Stephanie@barnstable.k12.ma.us	November, 2013
Margeaux Weber - Chair e-mail: Weber_Margeaux@barnstable.k12.ma.us	November, 2013

Barnstable Public Schools District Technology Committee Members

District	Elementary K-5	BIS 6 & 7	BHS 8-12
Mary Czajkowski Marie McKay Bethann Orr Technology Department Beth Knittle Maura Bussiere Patti Kelleher	Kathi Amato Matt Scheufule Dale Forest Holly Silva Thomas OConnor, Kathy Astrauckas Kathy Duran Lynn Ohrn Melissa Morin	Christine Spence-Dilley, Deborah Hart Kim White Kristen Harmon Virginia Turner	Scott Pyy Bo Wu Cory Eno, Grace Lytle Kristen Harmon Virginia Turner Wendy Johnson

Student Help Desk
Lilian Bunyea,
Matthew Brillant,

Community Outreach
Patrick Murphy, School Committee Member
Rob Wolters, HP

District Educational Technology Department Members

Bethann Orr, Director of Educational Technology
Kurt Turnbull, District Network Administrator
BethKnittle, K-12 Technology Integration Specialist
Alan Brown, District Technology Specialist
Andrew Bunker, District Technology Specialist
Kim Rumberger, Common Assessment Facilitator
DeeDee Beckwith, Technology Facilitator
Michael MacMillian, District Information & Systems Analyst
Maureen Lovett, District Data Systems Coordinator

Technology Teachers

Rachel Dodge, Grade 6
Catilyn Sweeney, Grade 6 & 7
Kimberly White, Grade 7
Becky St. Onge, Grade 8

Technology Assistants

Maura Bussiere, Hyannis West Elementary School
Betsy Miller, Barnstable West Barnstable Elementary School
Vacant, Barnstable Community Horace Mann Public Charter School
Nicola Stacy, Centerville Elementary School
Laura Rosenfield, West Villages Elementary School
Patti Kelleher, Barnstable United Elementary School
Jessica Barron, Barnstable United Elementary School

B2B 22 Educational Television Station

Dustin Devlin, Educational TV Coordinator
Noreen Jones, System-Media Specialist

Help Desk Students

Lillian Bunyea, Class of 2015
Matthew Brillant, Class of 2015

School Board Approval and Support

RE: Approval and Support for the Barnstable Public Schools Strategic Technology Action Plan:

The Barnstable Public School Committee has reviewed the district's technology plan and is in full accord and agreement with the contents and direction of the plan. It is our belief that student learning and effective teaching are enhanced with the use of computer technologies.

Our commitment in this plan is to provide equitable technology access for all students, to develop lifelong learners, integrate technology into the curriculum and transform education to improve student outcomes, and the build a culture of continuous learning for students and staff.

The adoption of the National Technology Standards for All Teachers and Students, and those technology standards derived from the National Educational Technology Standards and adopted and supported by the Massachusetts Recommended Pre-K – 12 Technology Standards, represent a key element in the progress towards high student achievement.

This technology plan has been approved and adopted on _____.

R. Patrick Murphy, School Committee Chairman: _____

Dr. Mary Czajkowski, Superintendent: _____

Guidelines

This technology strategic action plan has been developed in accordance with the Massachusetts Office of Digital Learning.

Local Technology Plan Guidelines (School year 2010-2011 through 2014-2015)

The district's strategic technology action plan is its guide for effective technology use to improve student achievement. Massachusetts Department of Education publishes Local Technology Plan Guidelines for districts to comply with. Barnstable Public Schools will make every effort to meet the Massachusetts Local Technology Plan Guidelines by 2015. This strategic plan is outlined and organized from this document; the original document can be found here. The major benchmarks are stated below.

Benchmark Standard 1: Commitment to clear vision and Implementation Strategies
Benchmark Standard 2: Technology Integration and Literacy
Benchmark Standard 3: Technology Professional Development
Benchmark Standard 4: Accessibility of Technology
Benchmark Standard 5: Virtual Learning and Communications
Benchmark Standard 6: Safety, Security and Data Retention

Other guiding documents that Barnstable Public Schools Educational Technology Department reference in running the daily operations of the department as follows:

National Technology Plan (2010:)
http://www.ed.gov/sites/default/files/netp2010.pdf

ISTE NET-S for students – Standards (2007):
http://www.iste.org/Libraries/PDFs/NETS_for_Student_2007_EN.sflb.ashx

ISTE NET_S for Teachers- Standards(2007):
MA DESE English Language Arts & Literacy Frameworks (2011):
http://www.doe.mass.edu/frameworks/ela/0111.doc

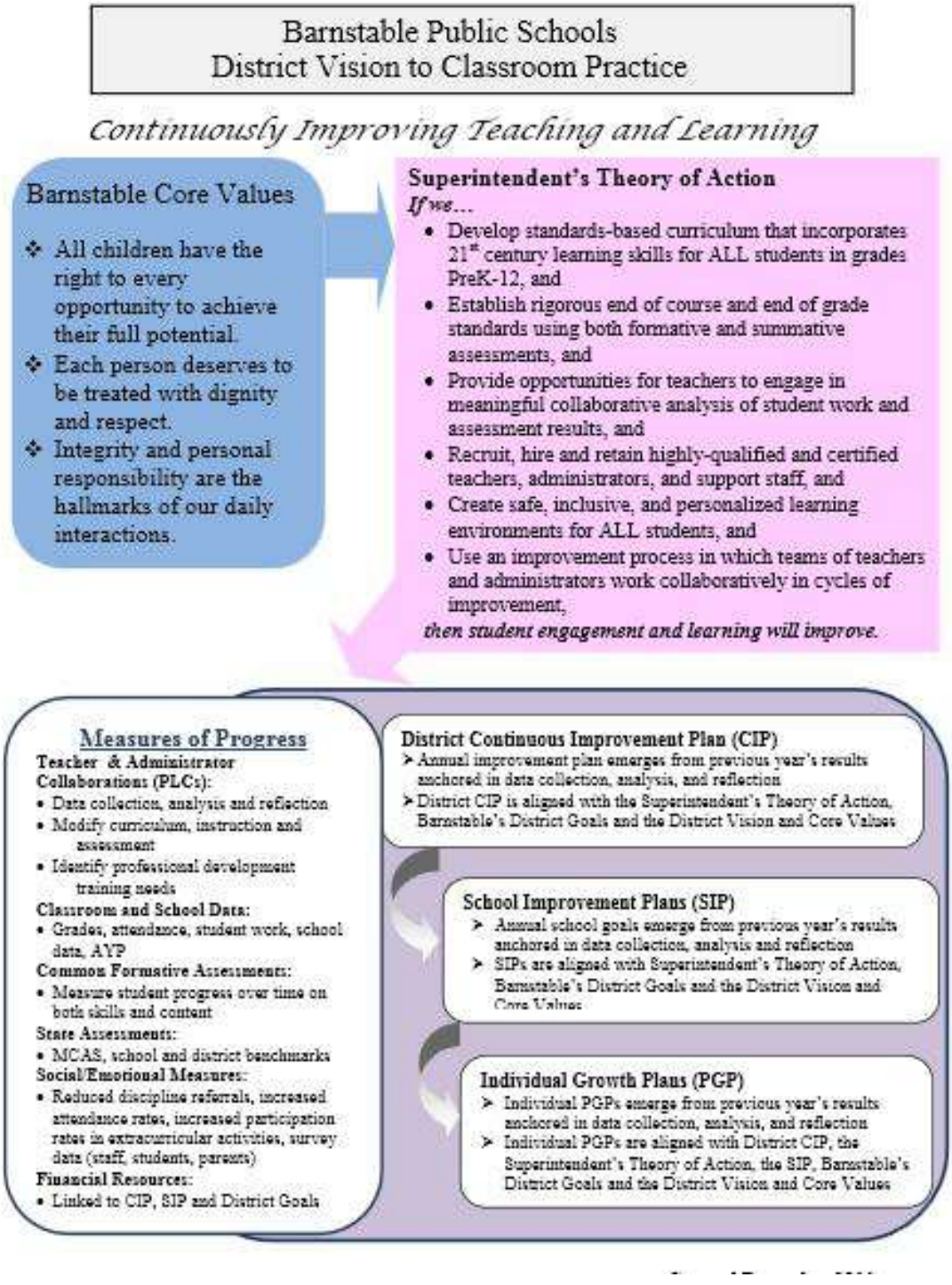
MA DESE Mathematics Frameworks (2011): http://www.doe.mass.edu/frameworks/math/0111.pdf

PARCC Model Content Frameworks (2012) http://www.parcconline.org/parcc-content-frameworks

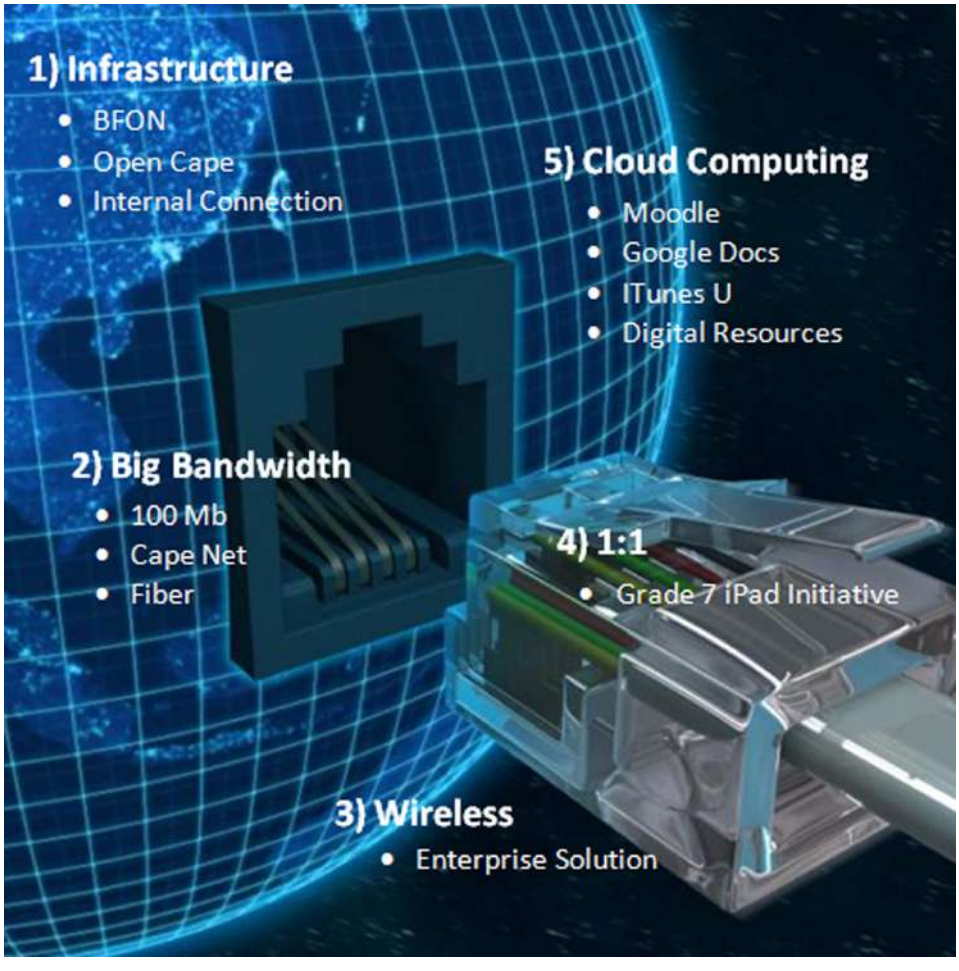
PARCC Technology Readiness Tool
http://www.doe.mass.edu/news/news.aspx?id=6743

P21 Common Core Tool Kit: A Guide to aligning the Common Core State Standards with the Framework for 21st Century Skills (2012)
http://www.p21.org/storage/documents/P21CommonCoreToolkit.pdf

Barnstable Public Schools
District Vision to Classroom Practice


Barnstable Public Schools
District Vision to Classroom Practice
Continuously Improving Teaching and Learning
Barnstable Core Values
All children have the right to every opportunity to achieve their full potential.
Each person deserves to be treated with dignity and respect.
Integrity and personal responsibility are the hallmarks of our daily interactions.
Superintendent's Theory of Action
If we…
Develop standards-based curriculum that incorporates 21st century learning skills for ALL students in grades PreK-12, and
Establish rigorous end of course and end of grade standards using both formative and summative assessments, and
Provide opportunities for teachers to engage in meaningful collaborative analysis of student work and assessment results, and
Recruit, hire and retain highly-qualified and certified teachers, administrators, and support staff, and
Create safe, inclusive, and personalized learning environments for ALL students, and
Use an improvement process in which teams of teachers and administrators work collaboratively in cycles of improvement,
then student engagement and learning will improve.
Measures of Progress
Teacher & Administrator Collaborations (PLCs):
Data collection, analysis and reflection
Modify curriculum, instruction and assessment
Identify professional development training needs
Classroom and School Data:
Grades, attendance, student work, school data, AYP
Common Formative Assessments:
Measure student progress over time on both skills and content
State Assessments:
MCAS, school and district benchmarks
Social/Emotional Measures:
Reduced discipline referrals, increased attendance rates, increased participation rates in extracurricular activities, survey data (staff, students, parents)
Financial Resources:
Linked to CIP, SIP and District Goals
District Continuous Improvement Plan (CIP)
Annual improvement plan emerges from previous year's results anchored in data collection, analysis, and reflection
District CIP is aligned with the Superintendent's Theory of Action, Barnstable's District Goals and the District Vision and Core Values
School Improvement Plans (SIP)
Annual school goals emerge from previous year's results anchored in data collection, analysis and reflection
SIPs are aligned with Superintendent's Theory of Action, Barnstable's District Goals and the District Vision and Core Values
Individual Growth Plans (PGP)
Individual PGPs emerge from previous year's results anchored in data collection, analysis, and reflection
Individual PGPs are aligned with District CIP, the Superintendent's Theory of Action, the SIP, Barnstable's District Goals and the District Vision and Core Values

Barnstable Public Schools
Educational Technology Vision
Educational Technology Mission
Educational Technology Action Plan



Barnstable Technology Vision Statement

Technology will be used throughout our schools as we acquire new and exciting ways to meet the needs of all of our students and to enhance student outcomes. We will strive to use the most up-to-date technology tools in order to:

- design learning environments that will reach out to a diverse learning community,
- gauge and monitor our students' individual levels of achievement, using that information to make important decisions about our programs and our support for student learning,
- model and encourage collaboration between and among us all: teachers, students, parents, administrators and the global community.

In our classrooms, teachers will be confident and knowledgeable about the range of technology tools that can assist them in making effective choices in designing learning experiences. Supported by accessible technology and professional development, teachers will develop and share authentic and engaging learning activities that require students to hone problem-solving skills.

Through this creative and collaborative environment Barnstable Public School teachers will use

technology to:

- promote intellectual experimentation,
- provide options that match learning experiences to the individual learner,
- promote the process of trial and error that comes with the development of higher order thinking.

All students, administrators and teachers will be accountable for basic technology skills while continuing to develop their technological literacy.

As 21st century life-long learners, the students of the Barnstable Public Schools will:

- understand the ever-evolving ways in which technology can challenge our personal safety,
- develop literacy skills that require them to identify reliable and credible sources
- use those sources to develop their own distinctive voices,
- demonstrate responsibility for the ethical use of technology,
- engage in the use of technology to promote participation in the global learning environment,
- distinguish and demonstrate the appropriate technological applications.

In all of our schools, classrooms, and offices, we will use technology to enhance interactions and understand that technology will never replace our human need for each other.

BELIEFS

- Technology allows us to better serve the diverse learning needs of our students.
- Skillful use of technology supports the development of process skills such as flexibility, adaptability, critical thinking, problem solving, communication and collaboration which are essential to success in our rapidly changing information age.
- Our schools must prepare students to be lifelong learners who are responsible for their own learning, skilled in accessing and processing information, confident in using technological tools, able to solve complex problems alone or collaboratively, capable of being creative and innovative, and able to communicate locally, nationally, and globally.

Rationale:

To accomplish our vision for increased student learning with the use of technologies, our action plan hopes to accomplish the following:

Development of Life Long Learners:

Assure skillful use of technology to support the development of lifelong learning skills and process skills such as: flexibility, adaptability, critical thinking, problem solving, and collaboration, which are essential to success in our rapidly changing information age.

Integration of Technology into the Classroom

- Expand classroom tools for teaching and learning.
- Provide for the integration of multiple resources for existing and emerging curriculum.
- Enable the learning community to communicate more effectively, access and process

information, and work productively.
- Link the classroom with educational resources within the building, community and worldwide.
- Create a collaborative environment for project oriented activities.
- Increases the productivity of students as they work toward attaining learning outcomes.
- Encourage the use of multimedia tools enabling students to become active and experiential learners.
- Enable learning to involve partnerships within the school, among schools, and with other organizations.

Build a Culture of Continuous Learning for Staff
- Develop school-based technology planning and learning.
- Build online learning opportunities.
- Incorporate learning new curriculum (math, writing, science, etc.) with technology applications aligned in a scope and pacing document.
- Facilitate access to collegial support and best practice information from a wide variety of resources.
- Expands the variety of teaching tools to differentiate and support diverse learners.
- Support productive and efficient management of student assessment and portfolio data.
- Increase support for emerging instructional strategies: differentiated, collaborative, and active learning options.
- Enables curriculum, instruction and assessment to be developed and aligned with each other.
- Provides a system that helps students, parents and teachers work together to support educational outcomes.
- Pilots new teaching strategies, technologies, and instructional resources.
- Investigates emerging possibilities for electronic learning resources.

Barnstable Public Schools Technology Mission Statement

Our mission is to support teaching and learning with technology. The resources to accomplish this mission include technology professional development, current hardware, software and technical support. Our role is to provide these resources for staff to improve student learning.

To ensure that instructional technology will be used to improve student learning and teaching in the Barnstable Public Schools, students will have access to appropriate technology; and the technology skills necessary to function in a global economy.

Staff will have access to appropriate technology; and the skills necessary to enhance teaching and learning with technology, and the technical support necessary to incorporate new technology into classroom instruction to support the Massachusetts Common Core of Learning and Curriculum Frameworks.

In envisioning the future we are committed to the following principals:

- Support the district's accountability plan
- Ensure that technology resources are equitable distributed amongst students and staff
- Support all learners and access for all using Universal Design; implement district wide software applications and digital resources
- Insist that adequate professional development is a component of every technology initiative

- Support formative assessment in the classroom and data driven decisions to improve student outcomes (Barnstable Common Assessments and DESE EDWIN).
- Support and create the BFON, and participate in the OPEN Cape initiative
- Continue to work with the technology staff and continue to develop a team spirit/effort regarding projects
- Support the members of the department in the professional development to develop those critical skills of a high performance team

Action Plan

Action Plan for Barnstable Public Schools

Based on the vision statement created and the priorities identified by the district technology committee, an action plan with specific actions and timelines will be approved by these stakeholders and adopted by the district. This is in conjunction with priorities identified and set by the district wide Educational Technology team. We are looking for the district members, ie. principals, teachers, teaching assistants, specialists, students and others to adopt these goals and objectives as their own. Without community support, these goals or action steps will not come to fruition.

Goal 1: Design Learning Environments that will Reach Diverse Learners Rationale:

Challenge: A well-documented, chronically under-funded district initiative regarding technology is apparent and obvious to all stakeholders of BPS. The wind has changed and the school committee and stakeholders understand the need to develop a proper technology program and are making progress towards funding the district as it should be funded. The district has been funded with one time injections every school year which has added a huge influx of activity and excitement for technology across the district. Purchasing hardware is not the end all, it is only the beginning. Teachers now have to review the learning opportunities we provide to our children and develop ways for students to accumulate knowledge. Lessons/Activities should be developed with respect for meeting the needs of the diverse learner, understanding the ideal of universal design and availability of technology/information for all students, with expectations for improved student outcomes.

Justification for Approach: The technology department and technology committee is counting on its teaching staff to come forward and offer model technology lessons aligned with the grade level district document. They are charged with having students not only acquire knowledge in content areas, but also to achieve higher levels of understanding. The teachers must understand what kind of students they are teaching in this day and age and understand how best to prepare them in a global economy.

Goal 2: Support Teachers to Become Confident and Knowledgeable about the Range of Technology to Design Effective Learning Experiences Rationale:

Challenge: The district technology department has informed all of the principals (and their staff) of all the resources that we have available for technology integration within the classroom. Barnstable is making great strides in procuring a package of technology resources that are available to all schools and students; the goal of the department is to provide a set of tools that will enhance the learning experience for the student. Additional purchases of resources are not necessary. What is necessary is for the teacher to embrace those technologies that are available to them and their classroom.

Teachers should collaborate with other teachers to experiment with those tools and resources and through that experimentation determine what best fits their classroom needs.

Justification for Approach: Can classrooms exist without technology today? Technology has transformed the way we live and learn. To facilitate the learning for students, and fulfill the daily tasks that are a requirement of employment, teachers must have a set of technology skills that are necessary and a requirement of employment.

Goal 3 : All Staff and Students will be Accountable to Achieve the Use of Technology to Support 21st Century Skills and Model Life Long Learning Rationale:

Challenge: Technology can change the face of education. We are charged with preparing our students to be successful in the 21st century, and to do so there must be a level of competency in technology for them as well. The importance of technology and the role it plays effects everyone in the educational system. It is the responsibility of all teachers to support the transformation of education through technology. The staff, teachers, and administrators of the district must come together and support those technology initiatives identified by the technology committee members.

Justification for Approach: Students must learn 21st century skills while acquiring content. How do teachers do that faced with the many other challenges in their day to day tasks? By using technology tools teachers can support the learning of higher order thinking skills.

Capital Improvements and Operational Budget

Capital Improvement Projects and Operational Budget

Infrastructure Improvements:
Several
Insert Kurt update on BFON
Insert here update on Open Cape

Budget Overview of last three recurring years for comparison:
Insert several years of budget (last three years, get marge to help)

Presentation Overview of FY14 Budget

Capital Improvement Projects: (See Appendix for actual documents)

1. Infrastructure Improvements ($200,000 for next 3 -5 years)
2. Multimedia classrooms ($1,310,199)

Staffing Requests:

1. District Network Specialist
2. ~~District K-12 Technology Integration Specialist~~ (unfunded)
3. .~~5 Technology Assistant, W Vill~~ (unfunded)
4. ~~Technology Teacher, BHS~~(unfunded)
5. ~~Hyannis West 1:1 project; dedicated technology coach (2015)~~

Operational Budget:

Account Title	Account Number	FY 2014 Budget Funding Line	Program Enhancement Request
Technology Hardware	17224530638500	261,800	#1(200,000)
Technology Software	17224550638500	9,500	
Cellular Service	17241399619011	3,400	
Capital Technology Equipment	17243572639530	52,188	
Networking/Telecommunications	17244072639210	7,500	
Data Lines	17244072639260	26,500	
Stipends	17244572517870	17,000	
Professional Development	17244572616230	11,000	
Technology Supplies	17244572638500	3,540	
Technology Maintenance	17244572639270	125,000	#3(14,200) #4(25,000/6000) #5(21,988/8,800) #6(15,000 ONE TIME)
Technology Repairs	17244572639280	35,500	
Travel	17244572671010	4,000	
Total salaries		649,470.64	
Absorption of operational BU			33,234 (various accounts)
Total		1,206,398.64	

Program Enhancements: Request for Increase

1. Refresh Cycle for Technology Capital Expenditures	200,000
2. Increase in Operational Budget for Barnstable United	33,234
3. Jamp/Casper Management System for Apple/Apple IOS	14,200/6000 one time)
4. Priority 2 Funding/Hyannis West Re-occurring costs	25,000/**6000**
5. Annual Maintenance Fee/Schoolwires	21,998/**8,800**
6. Aspen X2/Roll of SemsTracker to X2	17,000 offset by 15,000 Sems Traker
7. Blackboard/Alert Now & Subs online (line item transfer)	0
8. Apple's Community Finance Agreement	TBD
9. Comcast IT Essentials Netbooks/Hyannis West	113,950.00 (one time 50,400)

Nine program enhancements were submitted in December of 2013. See appendix for actual documents.

ERATE: Currently, we apply for reimbursement for telecommunications (POTS & cell phones, data plans, Internet access and Web Hosting), and Internet services.

Hyannis West Elementary School has received Priority II funding for Internal Connections. A robust infrastructure project has begun during the 2012-2013 school year and will be completed by October, 2013. Hyannis West will be eligible for Priority I Basic Maintenance funding for the infrastructure improvements during the future.

District Educational Resources

Barnstable is committed to diverse and varied resources available to ALL SCHOLS AND STUDENTS. We have carefully evaluated and have chosen wisely the tools that will benefit all students. Described below are district wide resources available to all schools and students. Most of these resources have administrative tools embedded in them, and monthly reports can be generated and distributed to the schools. With support for the site administrators, we can encourage staff to take advantage of such products.

Computer Basics

Acceptable Use Policy: All teachers and staff must sign and be familiar with the AUP. The student version is available in the student handbook.

The Novell Network: The school has an internal network. When you turn on your computer in the morning you see the Novell log in screen. You are required to enter a user name (usually: lastname_firstname) and a password. **GroupWise** is our email client. Your e-mail address is usually lastname_firstname@barnstable.k12.ma.us. To access your e-mail at school simply click on the "GroupWise" icon and enter you Novell user name. If you have created a password you will need to enter that as well. A password must be created if you wish to use GroupWise from home through the Internet. A link to GroupWise-Webmail is found on the district or school webpage in the **Staff Info** drop down menu.

When using your computer at home, you will not be able to connect to the school network so be sure to check box workstation only on the Novel log in screen.

The P Drive: When you log on to the Novell Network and you click the "my Computer" icon on the desktop you will see that you are linked to several drives. Some of these may include; the O drive (everyone server) and the P drive (with your name) among others. You may create files and save your documents and projects here. The O drive can seen by everyone as the name implies – a great way to share information but not a great place to store information. The P drive is private and is the place where you should save your work. Should anything go wrong with your computer it will most likely be "swapped out" and replaced with a working one or it will be re-imaged. If this happens you will lose all the work you saved on your computer (C drive). Please get in the habit of saving to the P.

School Dude: All service, maintenance and support requests for computers, notebooks, printers and peripherals are made through the online work order system known as School Dude, the password for our departments request is BPS. http://www.myschoolbuilding.com/.

District Resources:
We offer a wide variety of resources across the district…..click here

Hardware

Parcc Readiness Tool where do we get reports for this……

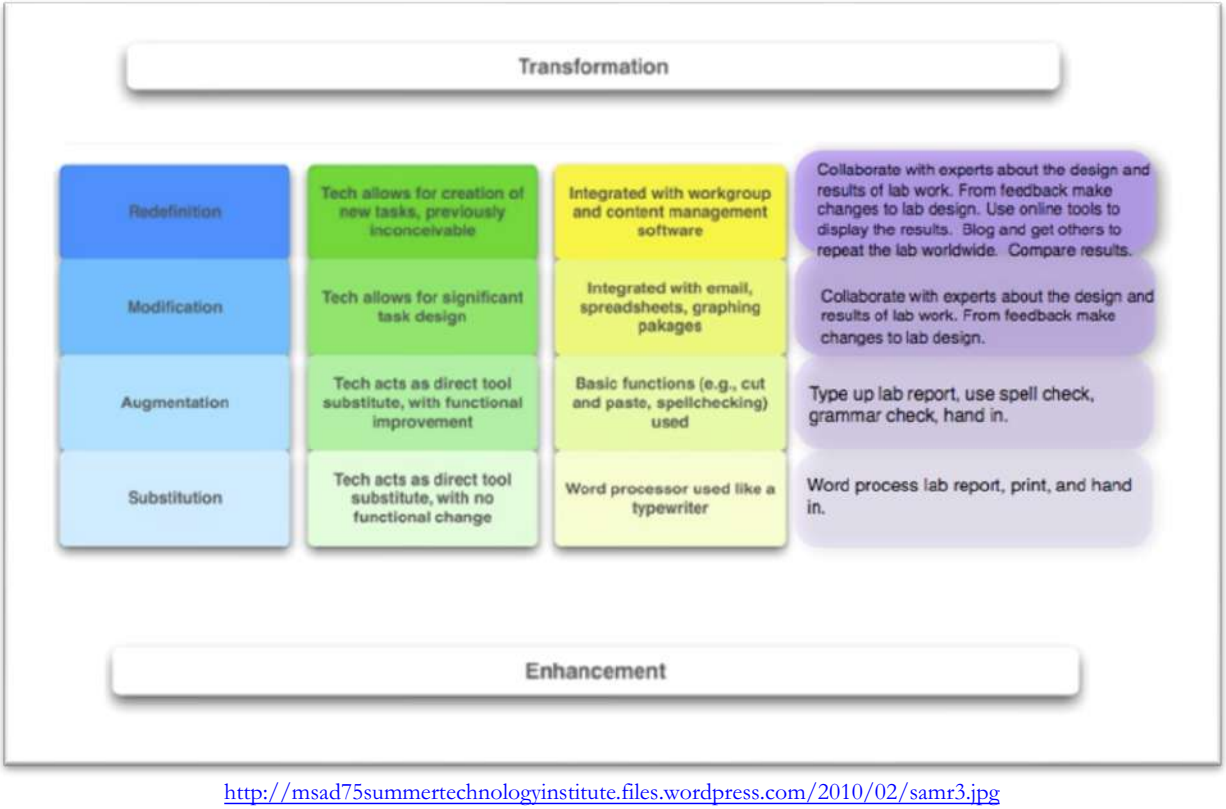
Devices (approximate numbers district wide)

860 - Notebooks
560 - Desktop computers
300 - Printers
200 - Interactive white boards/projectors
60 - Projectors
100 - Document cameras
400 – iPads (more on the way)
500 - Assorted scanners, cameras, netbooks, carts, mobile devices, and peripherals

Infusions of Technology /The SAMR Model

The **S**ubstitution **A**ugmentation **M**odification **R**edefinition Model offers a method of seeing how computer technology might impact teaching and learning. It also shows a progression that adopters of educational technology often follow as they progress through teaching and learning with technology.

SAMR Model of Technology Adoption



http://msad75summertechnologyinstitute.files.wordpress.com/2010/02/samr3.jpg

Level	Definition	Examples	Functional Change
Substitution	Computer technology is used to perform the same task as was done before the use of computers.	Students print out worksheet, finish it, pass it in.	No functional change in teaching and learning. There may well be times when this the appropriate level of work as there is no real gain to be had from computer technology. One needs to decide computer use based on any other possible benefits. This area tends to be teacher centric where the instructor is guiding all aspects of a lesson.

Augmentation	Computer Technology offers an effective tool to perform common tasks.	Students take a quiz using a Google Form in stead of using pencil and paper.	There is some functional benefit here in that paper is being saved, students and teacher can receive almost immediate feedback on student level of understanding of material. This level starts to move along the teacher / student centric continuum. The impact of immediate feedback is that students may begin to become more engaged in learning.
Modification	This is the first step over the line between enhancing the traditional goings-on of the classroom and transforming the classroom. Common classroom tasks are being accomplished through the use of computer technology.	Students are asked to write an essay around the theme "And This I Believe...". An audio recording of the essay is made along with an original musical soundtrack. The recording will be played in front of an authentic audience such as parents, or college admission counselors.	There is significant functional change in the classroom. While all students are learning similar writing skills, the reality of an authentic audience gives each student has a personal stake in the quality of the work. Computer technology is necessary for this classroom to function allowing peer and teacher feedback, easy rewriting, and audio recording. Questions about writing skills increasingly come from the students themselves.
Redefintion	Computer technology allows for new tasks that were previously	A classroom is asked to create a documentary video answering an essential question related to important concepts. Teams of students take on different subtopics and collaborate to create one final product. Teams are expected to contact outside sources for information.	At this level, common classroom tasks and computer technology exist not as ends but as supports for student centered learning. Students learn content and skills in support of important concepts as they pursue the challenge of creating a professional quality video. Collaboration becomes necessary and technology allows such communications to occur. Questions and discussion are increasingly student generated.

Information Technology and Curriculum

At both the national and state levels, technology plans guide the development and implementation of technology use for improving student academic achievement through systemic reform by local school districts. A requirement of the federal government for school districts applying for E-rate and/or federal grants, these plans and the various educational reform acts have been the impetus for the systematic integration of technology into our schools, transforming education from a 19th century factory model to schools of the information age.

Speak up?
Horizon Report?

In supporting technology infusion throughout the district, there are 5 simple themes of the learning process that we can support no matter what the grade level or subject matter.
The following table describes our focus of technology infusion.

RESEARCH	CREATE	PUBLISH	DISCUSS	MANAGE
Wikipedia Yo link Diigo Library databases Discovery Streaming Google Advance Search	Open Office iWorks Google Docs Photostory Glogster Animationish iMovie MovieMaker Blogs Wiki Garageband Explain Everything	Blog (private) Wiki Media Server Channel 22 Glogster Animationish iMovie MovieMaker Vimeo Edmodo	Moodle Wikis & Blogs Google Docs Diigo Edmodo	P drives Folders Agendas Diigo Wikis Google pages Pinterest Edmodo Google Drive

The district EdTech team has developed guiding documents for our teachers, to ensure that teachers are supporting the development of technology and information technology skills across the district. There are three guiding documents

- K-5
- 6-8
- 9-12

In addition, a district documents challenges teachers to reflect on their technology skills, and compare their skills against our students who have completed the Information and Literacy Technology coursework that is offered in grades 6-8.

K-5 Information Literacy and Technology Key Standards

Basic Operations, Internet Safety and Ethics

- Demonstrate beginning steps in using available hardware and applications (e.g., turn on a Computer/iPad, launch a program, use a pointing device such as a mouse or gesturing on an iPad
- Explain that icons (e.g., recycle bin/trash, folder) are symbols used to signify a command, file, or application.
- Identify, locate, and use letters, numbers, and special keys (e.g., space bar, Shift, Delete) on the keyboard. Show/hide keyboard on iPad also use stylus/finger to input text on touch screen.
- Recognize the functions of basic file menu commands (e.g., New, Open, Close, Save, Print, share).
- Demonstrate basic steps in using available hardware and applications (e.g., log into a Computer/iPad, connect/disconnect peripherals, upload files from peripherals). Print from iPad, share/email picture
- Select a printer, use print preview, and print a document with the appropriate page setup and orientation.
- Use various operating system features (e.g., open more than one application/program, work with menus, use the taskbar/dock). Review settings on an iPad, open, close and switch apps on an iPad.
- Demonstrate intermediate keyboarding skills and proper keyboarding techniques. Typing on an iPad.
- Explain that the Internet links computers around the world, allowing people to access information and communicate.
- Explain and use age-appropriate online tools and resources (e.g., tutorial, assessment, Web browser).
- Save, retrieve, and delete electronic files on a hard drive or school network. Save and retrieve files on an iPad.
- Explain terms related to the use of networks (e.g., username, password, network, file server).
- Identify and use terms related to the Internet (e.g., Web browser, URL, keyword, World Wide Web, search engine, links).
- Follow classroom rules for the responsible use of computers, peripheral devices, and resources.
- Explain the importance of giving credit to media creators when using their work in student projects.
- Explain and demonstrate compliance with school rules (Acceptable Use Policy) regarding responsible use of computers and networks and ethical Internet use.
- Explain responsible uses of technology and digital information; describe possible consequences of inappropriate use.
- Explain Fair Use Guidelines for the use of copyrighted materials (e.g., text, images, music, video) in student projects.

- Describe how people use many types of technologies in their daily lives.
- Identify ways in which technology is used in the workplace and in society.
- Explain how hardware and applications can enable people with disabilities to learn.
- Demonstrate knowledge of ergonomics and electrical safety when using computers.
- Recognize and describe the potential risks and dangers associated with various forms of online communications.
- Identify and explain the strategies used for the safe and efficient use of computers (e.g., passwords, virus protection software, spam filters, popup blockers).
- Demonstrate safe e-mail practices, recognition of the potentially public exposure of e-mail and appropriate e-mail etiquette (if the district allows student e-mail use).
- Identify cyber bullying and describe strategies to deal with such a situation.
- Recognize and demonstrate ergonomically sound and safe use of equipment.

Research

- Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively as well as in words
- Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, and poem)
- Identify the purpose of a media message (to inform, persuade, or entertain)
- Review teacher-selected Internet resources and explain why each resource is or is not useful
- Use age-appropriate Internet-based search engines and library databases to locate and extract information, selecting appropriate key words
- Use content-specific technology tools (e.g., environmental probes, sensors, measuring devices, simulations) to gather and analyze data
- Use online tools (e.g., e-mail, online discussion forums, blogs, and wikis) to gather and share information collaboratively with other students.

Manage

- Save, retrieve, and delete electronic files on a hard drive or school network.
- Define the term “database” and provide examples from everyday life (e.g., library catalogues, school records, and telephone directories).
- Use various age-appropriate technologies to locate, collect, and organize information
- Demonstrate an understanding of the spreadsheet as a tool to record, organize, and graph information.

- Use a spreadsheet application to add data, display data, use simple formulas and create a graph or chart

Collaborate

- Explain that the Internet links computers around the world, allowing people to access information and communicate.
- Demonstrate safe e-mail practices, recognition of the potentially public exposure of e-mail and appropriate e-mail etiquette (if the district allows student e-mail use).
- Identify cyber bullying and describe strategies to deal with such a situation.
- Use online tools (e.g., e-mail, online discussion forums, blogs, and wikis) to gather and share Information collaboratively with other students, if the district allows it.

Create & Publish

- Use a word processing application to write, edit, print, and save simple assignments.
- Insert and size a graphic in a word processing document.
- Make strategic used of digital media and visual displays of data to express information and enhance understanding of presentations
- Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.
- Create projects that use text and various forms of graphics, audio, and video (with proper citations) to communicate ideas.
- Use teacher-developed guidelines to evaluate multimedia presentations for organization, content, design, presentation, and appropriate use of citations
- Explain the importance of giving credit to media creators when using their work in student projects.
- Explain Fair Use Guidelines for the use of copyrighted materials (e.g., text, images, music, video) in student projects
- With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page (gr4) two pages (gr 5) in a single sitting.

Information Literacy and Technology Key Standards
Grades 6-8

This is a summary document that pulls out the key standards that are *repeated* in three of the four sets of curriculum that the Educational Technology department is responsible to support (see supporting document list). This document is being prepared to share with curriculum coordinators, writers and department chairs to aid them in their work of re-aligning the curriculum to meet the new MA DESE curriculum frameworks.

The technology related standards were highlighted in each of the four sets of standards. Those that were found in at least 3 of the 4 frameworks were selected. A blending of the wording of the common standards was used to create the list below. The standards are arranged and grouped according the 5 themes, of the learning process.

Research

- Identify probable types and locations of Web sites by examining their domain names, and explain that misleading domain names are sometimes created in order to deceive people (e.g., .edu, .com, .org, .gov, .au).
- Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation
- Use Web browsing to access information (e.g., enter a URL, access links, create bookmarks/favorites, print Web pages).
- Explain and demonstrate effective searching and browsing strategies when working on projects
- Collect and organize digital information from a variety of sources, with attribution.
- Evaluate the authenticity, accuracy, appropriateness, of electronic resources, including Web sites
- Analyze and explain how media and technology can be used to distort, exaggerate, and misrepresent information.
- Use a variety of computing devices (e.g., probeware, handheld computers, digital cameras, scanners) to collect, analyze, and present information for curriculum assignments.
- Develop and use guidelines to evaluate the content, organization, design, use of citations, and presentation of technologically enhanced projects

Manage

- Save and organize documents and files

- Bookmark and tag web resources

- Describe the use of spreadsheets to calculate, graph, organize, and present data in a variety of real-world settings.

- Create an original spreadsheet, using formulas.

- Produce simple charts and graphs from a spreadsheet.

- Distinguish among different types of charts and graphs, and choose the most appropriate type to represent given data.

Collaborate

- Use e-mail functions and features (e.g., replying, forwarding, attachments, subject lines, signature, and address book.) The use of e-mail is at the school district's discretion and may be a class-wide activity if students do not have individual accounts.

- Describe appropriate and responsible use of communication tools (e.g., chats, instant messaging, blogs, and wikis).

- Use a variety of telecommunication tools (e.g., e-mail, discussion groups, Web pages, blogs, Web conferences) to collaborate and communicate with peers, experts, and other audiences (at district's discretion).

Create

- Use models, simulations including computer simulation (spreadsheets, graphing calculators, dynamic geometry software, laboratory simulations, physical models) to explore complex systems and issues

- Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multimedia to present a particular topic or idea

- Create documents that include formatting (headings), graphics (images, charts, tables) and multimedia when useful to aiding comprehension

- Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence and add interests.

- Create a multimedia presentation using various media as appropriate (e.g., audio, video, animations, etc.).

- Use a variety of technology tools (e.g., dictionary, thesaurus, grammar-checker, calculator) to maximize the accuracy of work.

Publish

- Explain ethical issues related to privacy, plagiarism, spam, viruses, hacking, and file sharing.

- Explain how copyright law protects the ownership of intellectual property, and explain possible consequences of violating the law.

- Explain fair use guidelines for using copyrighted materials (e.g., images, music, video, text) in school projects.

- Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.

Information Literacy and Technology Key Standards
Grades 9-12

This is a summary document that pulls out the key standards that are *repeated* in four sets of curricular frameworks and standards that the Educational Technology Department is responsible to support (see supporting document list). This document is being prepared to share with curriculum coordinators, taskforce members, and department chairs to aid them in their work of re-aligning the curriculum to meet the new MA DESE curriculum frameworks.

The technology related standards were highlighted in each of the four sets of standards. Those that were found in at least 3 of the 4 frameworks were selected. A blending of the wordings found in the common standards was used to create the list below. The standards are arranged and grouped according the 5 themes, of the learning process.

Research

- Identify and define authentic problems and significant questions for investigation
- Use multiple processes and diverse perspectives to explore alternative solutions
- Plan strategies to guide inquiry, explain and demonstrate effective search strategies for locating and retrieving electronic information (e.g., using syntax and Boolean logic operators)
- Compare, evaluate, and select appropriate electronic resources, search engine and directories to locate specific information
- Collect and analyze data to identify solutions and/or make informed decisions
- Evaluate the authenticity, accuracy, appropriateness, and bias of electronic resources, including Web sites
- Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation
- Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, and poem)
- Integrate and evaluate information presented in diverse media formats including visually, quantitatively, and orally

Manage

- Define and use functions of a spreadsheet application (e.g., sort, filter, find)
- Enter formulas and functions; use the auto-fill feature in a spreadsheet application
- Explain and use advanced formatting features of a spreadsheet application (e.g., Reposition columns and rows, add and name worksheets)
- Use multiple sheets within a workbook, and create links among worksheets to solve problems.
- Import and export data between spreadsheets and other applications.

Collaborate

- Plan, assign and implement tasks among team members
- Describe and use safe and appropriate practices when participating in online communities (e.g., discussion groups, blogs, social networking sites)
- Create and share documents and files
- Communicate information and ideas effectively to multiple audiences using a variety of media formats
- Contribute to project teams to produce original works or solve problems

- Produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically and respond to ongoing feedback, including new arguments or information

Create

- Create original works as a means of personal or group expression
- Create document with proper formatting and images
- Apply advanced formatting and page layout features when appropriate (e.g., columns, templates, and styles) to improve the appearance of documents and materials
- Write correct in-text citations and reference lists for text and images gathered from electronic sources
- Identify examples of plagiarism, and discuss the possible consequences of plagiarizing the work of others
- Create media rich presentation that incorporates images, audio and video
- Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations
- Use models, simulations including computer simulation (spreadsheets, graphing calculators, dynamic geometry software, laboratory simulations, physical models) to explore complex systems and issues
- Use technologies capacity to link to other information and to display information flexible and dynamically

Publish

- Choose appropriate platform to publish work for intended audience
- Proof and format work for publishing platform
- Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others
- Explain laws restricting the use of copyrighted materials

Educational Technology and the Common Core

This document is being prepared to share with curriculum coordinators, task force members, and department chairs to aid them in their work of re-aligning the curriculum to meet the new MA DESE curriculum frameworks, the common core and PARCC.

Curriculum Support
A Focus on Grades 6-12

This summary document pulls out the key standards that are *repeated* in four sets of curricular frameworks and standards that the Educational Technology Department is responsible to support (see supporting document list). The technology related standards were highlighted in each of the sets of standards. Those that were found in at least 3 of the 4 frameworks were selected. A blending of the wordings found in the common standards was used to create the list below. The standards are arranged and grouped according the 5 themes, of the learning process. Below each theme are some examples of the tools, services, supports that the Ed Tech Department can offer to support students and staff in achieving these standards. The appendix contains exemplar lessons (yet to be developed).

Research

- Identify and define authentic problems and significant questions for investigation
- Use multiple processes and diverse perspectives to explore alternative solutions
- Plan strategies to guide inquiry, explain and demonstrate effective search strategies for locating and retrieving electronic information (e.g., using syntax and Boolean logic operators)
- Compare, evaluate, and select appropriate electronic resources, search engine and directories to locate specific information
- Evaluate the authenticity, accuracy, appropriateness, and bias of electronic resources, including Web sites
- Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation
- Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, and poem)
- Analyze and explain how media and technology can be used to distort, exaggerate, and misrepresent information.
- Integrate and evaluate information presented in diverse media formats including visually, quantitatively, and orally
- Identify probable types and locations of Web sites by examining their domain names, and explain that misleading domain names are sometimes created in order to deceive people (e.g., .edu, .com, .org, .gov, .au).
- Use Web browsing to access information (e.g., enter a URL, access links, create bookmarks/favorites, print Web pages).
- Collect and organize digital information from a variety of sources, with attribution.
- Use a variety of computing devices (e.g., probeware, handheld computers, digital cameras, scanners) to collect, analyze, and present information for curriculum assignments.

- Develop and use guidelines to evaluate the content, organization, design, use of citations, and presentation of technologically enhanced projects
- Collect and analyze data to identify solutions and/or make informed decisions

Library Data Bases	Discovery Streaming
Google Apps/Advanced Search	Diigo

Manage

- Describe the use of spreadsheets to calculate, graph, organize, and present data in a variety of real-world settings.
- Create an original spreadsheet, using formulas.
- Produce simple charts and graphs from a spreadsheet.
- Distinguish among different types of charts and graphs, and choose the most appropriate type to represent given data.
- Define and use functions of a spreadsheet application (e.g., sort, filter, find)
- Enter formulas and functions; use the auto-fill feature in a spreadsheet application
- Explain and use advanced formatting features of a spreadsheet application (e.g., Reposition columns and rows, add and name worksheets)
- Use multiple sheets within a workbook, and create links among worksheets to solve problems.
- Import and export data between spreadsheets and other applications.
- Save and organize documents and files
- Bookmark and tag web resources

Moodle	Glogster EDU	Google Docs
Google sites (wiki)	Blogger	Email – mybps.me
P-drive	X2 locker	Diigo

Collaborate

- Plan, assign and implement tasks among team members
- Describe and use safe and appropriate practices when participating in online communities (e.g., discussion groups, blogs, social networking sites)
- Create and share documents and files
- Communicate information and ideas effectively to multiple audiences using a variety of media formats
- Contribute to project teams to produce original works or solve problems
- Produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically and respond to ongoing feedback, including new arguments or information
- Use e-mail functions and features (e.g., replying, forwarding, attachments, subject lines, signature, and address book.)
- Describe appropriate and responsible use of communication tools (e.g., chats, instant messaging, blogs, and wikis).
- Use a variety of telecommunication tools (e.g., e-mail, discussion groups, Web pages, blogs, Web conferences) to collaborate and communicate with peers, experts, and other audiences.

Moodle	Glogster EDU	Google Docs
Blogger	Email – mybps.us	Diigo

Create

- Create original works as a means of personal or group expression
- Apply advanced formatting and page layout features when appropriate (e.g., columns, templates, and styles) to improve the appearance of documents and materials
- Write correct in-text citations and reference lists for text and images gathered from electronic sources
- Identify examples of plagiarism, and discuss the possible consequences of plagiarizing the work of others
- Create media rich presentations that incorporate images, audio, animation and video
- Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations
- Use models, simulations including computer simulation (spreadsheets, graphing calculators, dynamic geometry software, laboratory simulations, physical models) to explore complex systems and issues
- Use technologies capacity to link to other information and to display information flexible and dynamically
- Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multimedia to present a particular topic or idea
- Create documents that include formatting (headings), graphics (images, charts, tables) and multimedia when useful to aiding comprehension
- Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence and add interests.
- Use a variety of technology tools (e.g., dictionary, thesaurus, grammar-checker, calculator) to maximize the accuracy of work.

Open Office	Google Docs	Glogster EDU
Pages/ Word	Google Presenter	Animation~ish
Keynote/PowerPoint	Google Spreadsheet	Movie Maker/iMovie
Numbers/Excel	Wordle/Tagxedo	PhotoStory
iBooks Author	Podcasts	Voicethread
Google Sites	Blogger	Animoto

Publish

- Choose appropriate platform to publish work for intended audience
- Proof and format work for publishing platform
- Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others
- Explain ethical issues related to privacy, plagiarism, spam, viruses, hacking, and file sharing.
- Explain how copyright law protects the ownership of intellectual property, and explain possible consequences of violating the law.
- Explain fair use guidelines for using copyrighted materials (e.g., images, music, video, text) in school projects.
- Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.

Moodle	Glogster EDU	iBooks
Google Sites	Google Docs	Blogger

Podcasts	VoiceThread	Animoto

Do you know what your students know?
Information Literacy and Technology Classes

The majority of the students in grades 6 - 8 participate in Information, Literacy and Technology (ILT) classes. Students in grades 6 and 7 have ILT twice a week. Students in grade 8 have ILT once a week. All lessons contain a focus on the ethical and responsible use of technology, digital citizenship and communication and collaboration skills. Below is a summary of the tools and services that students will have completed at the end of each grade level.

At the end of Grade Six students will have had experience with:

1. Digital Citizenship
2. Keyboarding skills using Typing Pal
3. Using the BIS Library Media Center (includes a scavenger hunt and web quest)
4. Using text document to create a table/chart (Sites Table)
5. Intranet (p-drive): Locating, accessing, creating folders, and saving documents/images
6. Visual Literacy skills (analyzing/evaluating, digital manipulation using web cams/flip cams, photojournalism, and ad literacy skills)
7. Using GlogsterEDU to create a culminating activity for Visual Literacy
8. Google Apps: Using Documents (type text, insert images), Presentation (bullet text, images), and Spreadsheet (input data, insert graphs/charts, gadgets), and sharing projects with peers
9. Cyber-safety skills, including using Animation-ish and Bamboo tablets to create a culminating project (i.e. cyberbullying, online safety)
10. Conducting Research--using Library Databases & Web Services (understanding resources), social bookmarking using Diigo, website evaluation, skimming, scanning, paraphrasing (note-taking), and MLA citations for text and images [generate research questions, understand resources, evaluate sites, note-taking, synthesize notes, and transform information--project)

At the end of Grade Seven students will have had additional experience with:

1. Digital Citizenship
2. Understanding of a Networked System - sharing and accessing information
3. Management and organization of on-line life using diigo, Google Apps, tags and labels
4. Establishing and protecting their “digital footprint’ or on-line presence
5. Google Apps:
   - Gmail: email etiquette, formatting, establishing contacts
   - Docs: inserting images, editing, formatting, organization and sharing via creation of collections and sharing with teachers
   - Presentations: text, images, transitions, sounds, etc.
   - Spreadsheets: input data, formula usage, graph creation, gadgets
   - Forms: survey creation
   - Sharing and collaboration with all Google Doc components
6. Creating guidelines and expectations for on-line presence (BPS Blogging & Commenting Guidelines)
7. Read/Write/Web and publishing for an authentic, global audience
8. Blog creation and development (safety, use of templates and design, use of widgets and

gadgets, RSS, posting, commenting)

9. Website Evaluation
10. Advanced search techniques (specific but not limited to Google)
11. Databases (specific but not limited to BIS library databases and BPS databases i.e, Discovery Education)
12. Spreadsheet use (specific but not limited to formulas, word search creation, etc)
13. Locating and using a variety of Web 2.0 tools and programs to share content knowledge
14. Podcast creation (script writing, recording, editing, saving, and publishing)
15. Changing and saving using correct file extensions
16. Conduction Research:
    - Using library databases and other Web resources (evaluating & verifying reliability)
    - Organization and management using Google docs and diigo accounts (bookmarking and tagging)
    - Paraphrasing
    - Correct MLA citation format for all resources including images
    - Creation of a multimedia presentation to demonstrate understanding and knowledge acquired through research
17. Digital Storytelling (creating a storyboard, searching, organizing, editing, citing, saving, and publishing/sharing)
18. Self evaluation: Developing rubrics and/or guidelines for projects and using to assess own work

1. *At the end of Grade Eight students will have had additional experience with:*
   Use Google Docs: Documents, Presentation, Spreadsheets
2. Create Google Sites with a focus on “sharing” and collaborating with peers. Students will leave 8th grade with an educational portfolio created using Google Sites.
3. Research core curriculum topics using district-provided resources: library databases, Discovery Education Streaming, etc.
4. Collaborate with students in social bookmarking using Diigo with a focus on “sharing”
5. Participation in an online course setting by using Moodle for both in-class and independent learning.

Virtual Learning or Blended Learning

Barnstable utilizes the following resources for online opportunities:

- Moodle (web enhanced classrooms)
- iTunes University
- Edmoto
- Google Sites
- Virtual High School
- E2020

BPS has been working very diligently to bring online learning opportunities to students at Barnstable High School over the past six years with varied success.

We are determined to be successful to offer online learning opportunity to Barnstable High School students. Currently, there is an online learning lab at Barnstable High School for credit recovery through the use of E2020. Also, students are able of acquire credit through additional courses in E2020 and Virtual High School

Barnstable as an iTunes Universtiy

iPads and iTunes U

With the addition of iPads in to Barnstable Public Schools we are investigating additional ways to share digital content via the iPads. In addition to the tools already available we have added iTunes U as an option for the iPad enhanced classrooms.
Teachers can include in their iTunes U site many the items they use with students; documents, quizzes, video and audio, as well as interactive content, links from the Internet, iBookstore, App Store, and iTunes Store. They can also add materials from among the 500,000-plus free public resources in the iTunes U catalog, including audio and video content from museums, universities, cultural institutions, and more.
From the iTunes U app, students can play video or audio lectures and take notes that are synchronized with the lecture. They can read books and view presentations. See a list of all the assignments for the course and check them off as they're completed. And when a message or assignment is created, students receive notification.

Increase in Communications

An important part of the new teacher evaluation is the STANDARD III Communication: Every effort to increase communication throughout the community has been undertaken with this new standard in mind. We offer the following district resources to improve/enhance communications with all stakeholders and families.

Web Tools Supporting Communication

Tool	Description
X2	X2 allows assignments to be posted to a calendar, with assignment descriptions with text, images and links. Documents such a directions and rubrics can be attached to assignments The grade book facilitates sharing of feedback on progress as each assignment grade can be posted. Teachers can make a comment/note on the assignment that parents and students can see. The class page allows teachers to post course documents such as syllabus, grading policies and course expectations. Teachers can also use the banner to share general information and links to other web resources including a class blog or site (see below). The blog in X2 is place for class announcements. Communication is generally one way.
Blogger	Blogger is part of the Google Apps suite. Faculty members have a mybps.us account, where they can activate a blog. The blog is a useful tool for communicating general information that will be updated regularly such as weekly. This is a great way to share what a class is working on in the upcoming week. Links, images and video can be used in blog posts. Communication can be one or two way depending on blog settings.
Google Site (Wiki)	Sites is part of the Google Apps suite. Faculty members have a mybps.us account, where they can activate a site. A site (wiki) is useful for communicating information that remains pretty constant and is not updated often. This is a great place to 'hang' resources for different units of study. These resources can be place where students can find additional resources for further inquiry or to help them out when they get stuck. Communication is generally one way – depending on wiki settings
School Wires	The District web pages are run on the School wires platform. Each teacher can have their own webpage linked directly to their school/district web site. Communication is one way

Creative Commons

Copyright and Fair Use for Teachers

As educators it is important that we model and teach our students to follow copyright law and to respect intellectual property. The recent changes in technology, allowing everyone the opportunity to create, share and publish, have changed the copyright landscape dramatically. Just because you can 'copy and paste' does not mean you should. There is an increase interest in the Creative Commons movement. This article is a great overview of what teachers need to know about Creative Commons. Below you will find resources to help you keep it legal.

In the Classroom
In the classroom teachers and students can use copyrighted materials under the fair use guidelines. Publishers and the academic community to provide use of works for educational and instructional purposes established these guidelines. These guidelines were designed for use with in the classroom; not for publishing or distributing work out side of the classroom. The following resources are helpful in understating fair use.

Copyright fair use Check List
Library of Congress – Taking the mystery out of copyright
Copyright & Fair Use Chart
Copyright Slider
Circular 21: Reproduction of Copyrighted Works by Educators and Librarians, from the copyright office
A collection of resources for teaching about copyright, fair use and creative commons

Creating and Publishing
Once you place something online you have become a publisher. It is of the utmost importance that you pay attention to the licensing of what you create and post online.

When creating material for use in the classroom **teachers and students** can follow fair use guidelines. If the work will or may be published (posted online, printed or distributed) then please be aware that fair use guidelines *may not* apply. It is recommended that you use original material you created or that are licensed under a creative commons license. If you must use copyrighted material seek permission to use the work. You will be surprised how often permission is granted.
When using another individual's work make sure you give prober attribution.

Attributing Creative Commons Material
Create a CC License
Center for Social Media: the code of best practices of sharing work
How to attribute CC Photos – this is a great info graphic on CC

Licensing Teacher Created Content
It is recommended that if teachers create content that is licensed under the Attribution-NonCommercial-ShareAlike creative commons license. You can create a license 'stamp' to attach to your work both digital and non-digital.

Publishing Student Work
It is important that students take pride in their work and as such we should respect their intellectual property. Written permission should be sought before publishing student work digitally, online or in print forms. *Link to Form*

Copyright and Fair Use for Students

As students you create documents, presentations and video in the course of your learning. It is important to follow copyright law and to respect intellectual property. The recent changes in technology, allowing everyone the opportunity to create, share and publish, have changed the copyright landscape dramatically. Just because you can 'copy and paste' does not mean you should. There is an increase interest in the Creative Commons movement. This video is a great overview of Creative Commons. Below you will find resources to help you keep it legal.

In the Classroom
In the classroom teachers and students can use copyrighted materials under the fair use guidelines. Publishers and the academic community to provide use of works for educational and instructional purposes established these guidelines. These guidelines were designed for use with in the classroom; not for publishing or distributing work out side of the classroom. When you use work under fair use guidelines you must credit/ provide attribution to the creator of the work. The following resources are helpful in understating fair use.

Copyright fair use Check List
Library of Congress – Taking the mystery out of copyright
Copyright & Fair Use Chart
Copyright Slider

Creating and Publishing
Once you place something online you have become a publisher. It is of the utmost importance that you pay attention to the licensing of what you create and post online.

When creating material for use in the classroom **teachers and students** can follow fair use guidelines. If the work will or may be published (posted online, printed or distributed) then please be aware that fair use guidelines *may not* apply. It is recommended that you use original material you created or that are licensed under a creative commons license. If you must use copyrighted material seek permission to use the work. You will be surprised how often permission is granted.
When using another individual's work make sure you give prober attribution.

Attributing Creative Commons Material
Create a CC License
Center for Social Media: the code of best practices of sharing work
How to attribute CC Photos – this is a great info graphic on CC

Links to BIS and BHS Library and Language Arts dept recommend citation and bibliography guidelines – in development.

Our push to 1:1

In summary the vision of the 1:1 program is as follows:

- Promote innovative learning environments supportive of critical thinking, communication, collaboration, and creativity; skills necessary for college and career
- Support personalize and individualized learning experiences to meet student needs
- Increase student organization and management skills
- Develop student research skills
- Develop a learning environment supportive of technology use in a responsible, appropriate, collaborative, and productive manner
- Promote student success as self-directed learners
- Increase access to technology, support a blended learning classroom environment, and enable differentiation
- Provide technology access to students and their families at home lessening the "digital divide" between students without access and their peers

Professional Development

A major goal of the Ed Tech team is to encourage and support faculty to choose the appropriate tools to incorporate into their learning environments. Teachers, curricular areas and students many need different tools to work with their particular learning styles and curricular objectives. The department also provides support for teachers to learn how to use and integrate these tools into their teaching.

Barnstable strives to adhere to the National Educational Technology Standards (NETS) for Teachers

The International Society for Technology in Education (ISTE) has created a document entitled, NETS for Teachers (NETS•T), which focuses on teacher technology skills where it defines the fundamental concepts, knowledge, skills, and attitudes for applying technology in educational settings. All candidates seeking certification or endorsements in teacher preparation should meet these educational technology standards.

Specifically to this district, it will be a goal of the technology department in conjunction with building principals to distribute the document and for teachers and administrators to familiarize themselves with the guidelines of this document and through the TSAT, determine which areas need attention and improvement in regards to their skill levels.

PROFESSIONAL DEVELOPMENT STRATEGIES and District Support of Technology

Program Summary: To promote quality education and creative growth, the Barnstable School System has developed an in-house, ongoing technology professional development plan. The primary objective of the plan is to provide educators with the technology skills necessary to begin the process of integrating technology into the curriculum to meet the needs of the 'net' generation of students. The technology department has a 13 workstation district training lab manned by technology staff. BPS has created a 20 hour professional development program that focuses on web 2.0 tools, and also has been approved to offer a 40- hour 3 credit graduate course for technology. This plan has been approved by the Barnstable Public Schools' Professional Development Board.

Barnstable Public Schools Technology professional development strategies for improving learning and teaching with technology are a part of the district and school-based strategic plans and curriculum initiatives.

During the 2008-2009 school year the District Ed Tech Team provided 148hrs of professional development to 379 participants for a total of 56,092 participant hours. In 2009-2010 we provided 126 hrs to 558 participants for a total of 70,308 participant hours.

BUILDING A CULTURE OF CONTINUOUS STAFF LEARNING
School-based Support Strategies

- The district technology team works throughout the year to coordinate activities and staff development in all schools. Schools would be provided a copy of the strategic technology plan and approve the action plan as their own.
- All teachers should be familiar with the national technology standards. It will be an ongoing effort to include the NETS teacher standards in ongoing district initiatives aimed at improving teaching and ongoing professional development.
- All teachers will take the TSAT on a yearly basis to review needs of the district.
- All administrators will take the Administrators TSAT on a yearly basis to review needs of the district.
- Staff will identify in-school "experts" or "lead learners" who assist colleagues with for support of existing and new programs.
- Build a network of resident staff technology support to serve on curriculum committees to write curriculum, select materials, and look for ways to integrate technologies into curriculum areas that support the K-12 technology skills for students.
- Teachers and staff members regularly attend (AND PRESSENT at) technology conferences at the state and national level. Administrators support the attendance to Massachusetts Computer Using Educators in October in Foxboro MA (and other technology conferences), and the International Society for Technology Education.
- The district supports online learning opportunities through MADOE, collaboratives, colleges and universities.
- The district website becomes a rich resource for student and staff learners. Students and staff are both

consumers and creators of curriculum resources online.
BPS offers an ANNUAL HOMEGROWN TECHNOLOGY WORKSHOP every February, run by teachers for teachers.

Infrastructure
BFON
OPEN Cape
Internal Connections

Switches

Wireless

Infrastructure

You may have notices most of the applications and tools used in a modern educational setting require computers or mobile devices with a connection to the Internet. The foundation of any technology integration rest on our infrastructure. This infrastructure it includes our Internet connections, modems, firewall, local network (Novell), switches, wireless access points and Ethernet cables and connections. Bandwith the ability to send information into and out of our network to the Internet is essential for fast connections speeds.

Barnstable I-NET/BFON Information Q & A created by Dan Wood, IT Director for the Town of Barnstable.

What does I-NET mean?

I-NET stands for Institutional Network. An Institutional Network is a closed, private network. The only traffic on the INET is what is generated or received by the participants of the network. There is no competition for bandwidth from anyone that is not a participant of the I-NET. An analogy would be if you could build your own road system and only the participants of the road project could use the roads. You certainly would be able to get places quicker and more efficiently.

Because of confusion in the past with the term INET we are now referring to this project as BFON (Barnstable Fiber Optic Network).

So what is BFON (formally called the I-NET)?

BFON will be approximately 65 miles of Fiber Optic cabling connecting all Municipal, School, Fire, Library, Water and County buildings within the town of Barnstable. A total of 58 sites (see site list at the end of this document). BFON will have a long life span and serve the participants for decades to come.

What will BFON do?

The immediate benefit, BFON will provide reliable, high speed networking connectivity between all buildings. Many sites currently use expensive slow leased lines or other slow methods for interconnections. BFON will provide for better connections at 100 times the speed or better. See “What are the potential uses for BFON in the future?” below.

How often will it need to be upgraded?

BFON will be a 100% Fiber Optic Cable network. Fiber Optic cable uses light to transmit and receive data. Nothing travels faster than the speed of light. It is the capability of equipment at each end of the fiber that decodes the light into things our computers and networks understand that determines the speed. In the technology world the speeds we are talking about are 100 megabit and 1 gigabit. If you are familiar with one of the most commonly used lease lines, the T1, which has a speed of 1.5 megabits you can see that 100 megabits (the minimum speed of BFON) is momentously faster. As technology progresses all that will be required to upgrade the speed would be to upgrade the devices on each end that decode the light. The fiber optic cable that makes up BFON will not need to be upgraded to handle the increase in speeds. Hanging the fiber optic cables on the poles, throughout the town, is the hardest (and most costly) part of the project but will only have to be done once. The fiber will serve the town for decades.

What are the potential uses for BFON in the future?

This is the hardest question to answer because the capacity of the fiber allows for so many different things to be done. Many we haven’t even thought of yet. Here is a sampling of potential uses:

- ✓ Consolidation of servers (email, data, application)
- ✓ More reliable and faster data backups
- ✓ Consolidation of phone services (potential for large cost savings)
- ✓ Change in phone methodologies, VOIP allowing better integration and management
- ✓ Live broadcasts from any site on the Town’s CH18 and School’s CH22

- ✓ Providing high speed backhauls for police cruisers with wireless laptops
- ✓ Distant learning and training
- ✓ Centralized electronic monitoring of environmentals, equipment and machinery
- ✓ Centralized Internet access and content filtering, virus protection etc.
- ✓ Expanding Town GIS applications to Police, Fire, Water and County Departments
- ✓ Provide access to Town data
- ✓ Video and security
- ✓ Emergency preparedness

Who will maintain this large network?

The Town's Information Technology Department will maintain and monitor BFON from the networking standpoint. The town will contract out for maintenance of the fiber optic cable in case of accidents, downed trees etc.

Who will pay for this project and how?

The Town will fund this project using franchise fees already collected from Comcast. The funding does not come from the General Fund and is not part of the property taxes the town collects.

Will there be any costs to me?

Town and School buildings will not have any direct charges associated with this project. Fire Departments and Water Companies and others could see a charge for use of the connections. The costs will be very reasonable and will help cover their share of ongoing maintenance and monitoring of the large network. Remember this project will replace many existing leased lines currently in use and provide a tremendous increase in speed and capability.

What do I need to do at my site to connect to BFON?

The Town's Information Technology Department will work with you to determine your sites needs. Sites other than Town and School will have to purchase compatible fiber optic networking equipment for their respective locations. The Town will work with you in selecting the compatible equipment.

How soon will this project be completed?

The project is tentatively schedule to begin in late January and it is expected to take 3 to 4 months to complete and test.

Sixty eight municipal buildings, along with all of the schools will have fiber run to them.

OPEN CAPE:
Update on OPEN CAPE

The technology directors across the Cape met with members of OPEN CAPE to discuss the 3 year implementation plan regarding OPEN CAPE> The possibilities are extremely interesting and exciting. We are moving forward to collaborate to discuss what options are available to us with regards to regional-izing resources, and leveraging our power by numbers.

There will be 65 dead end connections to educational institutions across the cape (along with 72 anchors), and BHS will be the recipient of one of those, due to the fact it is designated an emergency shelter. Engineers are in discussions presently with regards to how to get the two lines over the bridge, and then the fiber will be built in 'legs'. Once over the bridge, they are first heading down the Falmouth route, of course, due to WHOI's role in this Cape wide project. The infrastructure MUST BE COMPLETED in three years, as outlined in the grant. Barnstable and other schools across the Cape will now have the needed Bandwidth speeds.

In addition to the fiber optic connections,we will have server space carved out of the 'hotel' or data center that will reside 'up on the hill' at the Barnstable County Complex. (This site has enough power to run the hotel.) This center will be open 24/7.

While the OPEN CAPE grant allows the infrastructure to be built, it is up to our committees and staff to decide what we are going to do with/ and how we will use those resources, and that in itself will be a very exciting opportunity to think out

of the box in the hopes that we finally have enough bandwidth to do ALL the things we envision.

Wireless:
Initial projections of a district wireless initiative are approximated at $500,000.00. See Budget/Capital Improvement Projects Appendix XXX for details.

Supporting Documents

MA DESE Technology Standards (2008): http://www.doe.mass.edu/edtech/standards/itstand.pdf

ISTE NET-S for students – Standards (2007): http://www.iste.org/Libraries/PDFs/NETS_for_Student_2007_EN.sflb.ashx

ISTE NET-S for Students – Student Profiles (2007): http://www.iste.org/Libraries/PDFs/NETS-S_2007_Student_Profiles_EN.sflb.ashx

MA DESE English Language Arts & Literacy Frameworks (2011): http://www.doe.mass.edu/frameworks/ela/0111.doc

MA DESE Mathematics Frameworks (2011): http://www.doe.mass.edu/frameworks/math/0111.pdf

PARCC Model Content Frameworks (2012) http://www.parcconline.org/parcc-content-frameworks

PARCC Technology Readiness Tool
http://www.doe.mass.edu/news/news.aspx?id=6743

P21 Common Core Tool Kit: A Guide to aligning the Common Core State Standards with the Framework for 21st Century Skills (2012)
http://www.p21.org/storage/documents/P21CommonCoreToolkit.pdf

Puentedura, Ruben R. (2012). The SAMR Model: Back ground and Exemplars.
http://www.hippasus.com/rrpweblog/archives/2012/08/23/SAMR_BackgroundExemplars.pdf

Swanson, Greg (2012). SAMR Model Apps Poster. http://appsineducation.blogspot.ca/2012/11/samr-model-apps-poster.html