Excellence in Education

PLAINVIEW-OLD BETHPAGE CENTRAL SCHOOL DISTRICT

K-12 EDUCATIONAL TECHNOLOGY CURRICULUM REFERENCE GUIDE

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Plainview-Old Bethpage Central School District
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Mission Statement

The mission of the Plainview-Old Bethpage School District is to provide an academically challenging and stimulating environment for all students, and to enable them to realize their full potential to be happy, ethical and analytical citizens of the world.

We do this by: making tolerance, acceptance, respect, honesty and kindness expectations for all students and for members of the Plainview-Old Bethpage school community; identifying each student's academic, social-emotional, aesthetic and physical needs, and striving to meet those needs; and encouraging communication between and among students, teachers, parents, administrators, and community members.

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INTRODUCTION

In alignment with district-wide K-12 curriculum objectives, NYS Learning Standards, and International Education Technology Standards, the following Computer Technology Curriculum Guide will provide teachers with a resource to help integrate grade level appropriate technology skills into daily instructional activities.

The fundamental goal of the Plainview-Old Bethpage School District Central is to support student achievement so as to improve learning for all students. Identifying and meeting the learning needs of students is the foundational activity in all planning for technology integration. The diverse needs of all students and staff will determine the appropriately tailored instructional and administrative goals and strategies.

Like school districts throughout the country and all over the world, Plainview-Old Bethpage is presented with a multitude of challenges by rapidly emerging information technologies. When those challenges are viewed along with the *No Child Left Behind Act of 2001*, and the academic standards that the act has generated for stronger accountability for results, increased flexibility and local control, expanded options for parents, and an emphasis on teaching methods that have been proven to work, the mandate to act is clear.

Schools that are truly committed to preparing children for their inevitable future will no longer be permitted to act on what has been the prevailing assumption, i.e. that the job of students is to learn what adults already know. We as adults know that is not enough.

Similarly, our task is less concerned with preparing our children for jobs, since most jobs as we know them - jobs where someone else tells you what to do, where, when and with whom to do it, and then how well you are doing it - will no longer exist. Recent research has shown that people who engage in the lifelong learning process will find themselves empowered to be creative and to capitalize on unexpected opportunities - they will find it easier to keep up on local and national issues; and they may take full advantage of new, easily accessible commercial and government services.

Our challenge is to provide our students with the 21st century skills and the habits of mind that their futures demand. In addition to subject - specific knowledge and understandings, the *New Standards* explicitly target capabilities that permeate all fields and are essential for participation in school, work, family, and community life. These capabilities include the ability to *manage resources,* to *manage information*, to *work with systems and technology*, to be entrepreneurs, to *creatively solve problems.*

Emerging technologies and the *New Standards* offer a multitude of opportunities. The work our children do - the data they collect, the ideas they generate, the stories they write, the art they create, the music they perform, the real problems they solve - will have a profound impact on the future. They urge us to have a larger view of school - one that is more accessible, more inclusive and more responsive. We are compelled to have communications systems that offer vastly expanded access to resources and information and permit more immediate contact, more focused interaction, and ultimately more collaboration between staff, students, parents and community.

This Computer Technology Curriculum Guide presents a map for raising the level of student performance in all of our classrooms. It helps enhance the uses of technology already in place to support our children's educational experiences and introduces new structures. It addresses our present and future needs while recognizing that the world and technology are rapidly changing.

Technology can be incorporated, in an appropriate manner, into every classroom and curricular in the district. It will not supplant the teacher or the human interaction that is so essential for learning; it is intended for use as a tool to enhance learning for all children.

Students will utilize powerful technology tools to express their ideas more clearly; to access information beyond anything available in traditional classrooms today; and to assist them in collaborating with other students around the globe on projects that have a real impact on the community. Technology also will assist students in visualizing abstract concepts, participate in rigorous simulations, gather data via scientific probes, analyze and manipulate data, compose music, create art; and create digital portfolios of their work.

The pages that follow are provided as a guide to help students tap into the transformational power of technology to fundamentally reshape our schools and classrooms to accommodate these changes.

This transformation will:

- **Bring the world to the classroom.** No matter what their socioeconomic or ethnic background, and no matter where they live, the learning field for all students can be leveled. Students are introduced to people, places, and ideas to which they might otherwise not be exposed;
- **Enable students to learn by doing.** Research has now confirmed what many instinctively knew - that children, who are actively engaged in learning, learn more;
- **Make parents partners in their children's education** by connecting the school with homes, libraries and other access portals;
- **Enable educators to better accommodate the varied learning styles and pace within the classroom.** This individualized instruction can be a key factor in student achievement.
- **Encourage students to become lifelong learners** who can access, analyze, and synthesize information;
- **Encourage educators to become guides and coaches to students,** rather than be "the sage on the stage;" and
- **Make students proficient in the basic technological skills needed to take their place in society-** whether they enter the working world directly after high school or pursue further formal education.

VISION SATEMENT

Technology changes the way we teach, communicate, and administer. The world can now be virtually brought into a classroom to enhance the instructional approaches of the teacher. Although, technology must be viewed as more than a tool to support our efforts to educate our children, is must not become an end in itself. We need to encourage innovative and sustained technology usage within the current curriculum. In the future, every student and teacher will have access to the school's technology beyond normal school hours. More communication with the home will be through email and web sites. The focus of the teacher will remain instructing students to produce meaningful, high quality work.

Technology extends learning beyond the classroom. Technology needs to fit into our school curricula in three ways:

- Teach about technology
- Teach with technology
- Students apply technology to real life situations

A lifelong learner is someone who has the ability to learn new skills, apply new concepts, and react to the unexpected. We must challenge and encourage students to adapt to technologies in order to succeed in our technology driven world. Therefore, technology needs to be an integral part of the learning process and curriculum. In order to ensure the optimum use of technology, computer literacy skills must be identified and benchmarked via grade level. Staff development must be given high priority as it relates to integrated computer literacy skills in the curricula. This will culminate in the ability of our staff and students to interact with the community at large for support as it relates to technology as a major influence in the lives of today's students.

K-12 TECHNOLOGY CURRICULUM INTEGRATION SUPPORT STRUCTURE

- Technology is integrated with the curriculum through projects facilitated by Classroom Teachers, Library Media Specialists, Project Challenge and MSTe teachers; supported by Computer Technology Teacher Aides located at each elementary and middle school.
- Technology activities and projects are led by the goals of the classroom curriculum at each grade level.
- A computer lab, with Internet access, is housed adjacent to library media centers.
- Typically, initial instruction is provided in the computer lab and library and then supported by computers located inside each classroom.
- Technology is formally integrated into the curriculum for grades 5 and 6 through CEUs (Curriculum Enrichment Units). For example, 5th grade will be formally taught keyboarding and presentation software. In 6th grade keyboarding will be reinforced and MS Excel and Internet research skills will be formally introduced.
- The middle and high school technology curriculum is not a discrete course of study; rather, it is a curriculum that is designed to be integrated into the total middle and high school experience. This guide presents a model for infusing technology standards, key concepts, benchmarks, and task assessments into the existing core curricula.

International Society of Technology for Education

National Educational Technology Standards (NETS) for Students

The technology foundation standards for students are divided into six broad categories. Standards within each category are to be introduced, reinforced, and mastered by students. These categories provide a framework for linking performance indicators within the Profiles for Technology Literate Students to the standards. Teachers can use these standards and profiles as guidelines for planning technology-based activities in which students achieve success in learning, communication, and life skills.

Technology Foundation Standards for Students

1. **Basic operations and concepts**

   - Students demonstrate a sound understanding of the nature and operation of technology systems.
   - Students are proficient in the use of technology.

2. **Social, ethical, and human issues**

   - Students understand the ethical, cultural, and societal issues related to technology.
   - Students practice responsible use of technology systems, information, and software.
   - Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

3. **Technology productivity tools**

   - Students use technology tools to enhance learning, increase productivity, and promote creativity.
   - Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.

4. **Technology communications tools**

   - Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.
   - Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.

5. **Technology research tools**

   - Students use technology to locate, evaluate, and collect information from a variety of sources.
   - Students use technology tools to process data and report results.

- Students evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks.

6. **Technology problem-solving and decision-making tools**

- Students use technology resources for solving problems and making informed decisions.
- Students employ technology in the development of strategies for solving problems in the real world.

For detailed information on NETS, visit ISTE's Website: http://cnets.iste.org

NEW YORK STATE LEARNING STANDARDS

Mathematics, Science, and Technology

Standard 1: Analysis, Inquiry, and Design

- Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.

Standard 2: Information Systems

- Students will access, generate, process, and transfer information using appropriate technologies.

Standard 3: Mathematics

- Students will understand mathematics and become mathematically confident by communicating and reasoning mathematically, by applying mathematics in real-world settings, and by solving problems through the integrated study of number systems, geometry, algebra, data analysis, probability, and trigonometry.

Standard 4: Science

- Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.

Standard 6: Computer Technology / Technology Education:

- Students will apply technological knowledge and skills to design, construct, use, and evaluate products and systems to satisfy human and environmental needs.
- Key Idea: Computers, as tools for design, modeling, information processing, communication, and system control, have greatly increased human productivity and knowledge.
- Interconnectedness: Common Themes
- Students will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning.

Standard 7: Interdisciplinary Problem Solving

- Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions. their own lives; and develop an understanding of the diverse social, historical, and cultural dimensions the texts and performances represent. As speakers and writers, students will use oral and written language that follows the accepted conventions of the English language for self-expression and artistic creation.

STUDENT TECHNOLOGY ASSESSMENT RUBRIC

OUTCOME:

Student is computer literate.

INDICATORS:

- The student will be able to utilize technology based skills and software applications.
- The student will be able to utilize technology to gather, analyze, synthesize and manipulate information to integrate the various content areas and facilitate critical thinking and problem solving.
- The student will be able to utilize technology to communicate in a variety of ways for a variety of purposes.

INDICATOR

4

The student is able, without assistance, to accomplish all of the tasks and make use of all of the software on the task list to complete his/her assignments, projects, demonstrations and portfolios in the various content areas.

3

The student is able to accomplish all of the tasks and make use of all of the software on the task list to complete his/her assignments, projects, demonstrations and portfolios in the various content areas, although she/he may need minimal help.

2

The student is able to accomplish some of the tasks and make use of some of the software on content areas but is not able to do so without assistance.

1

The student is unable to accomplish the tasks and utilize the software to complete his/her assignments.

STAFF DEVELOPMENT NEEDS

To provide ongoing, sustained professional development for teachers, in recognition of the significant time and learning needed to acquire and refine new skills, staff development programs will be guided by the following four characteristics.

1. **Development is encouraged by doing:** The learning of new technologies will involve participants in experience-based opportunities, with learning resulting from doing and exploring. Training will be task-based rather than skill-based wherever possible. Substantial shifts in working behavior depend upon active involvement, real-world experience and problem solving. Active involvement in exploration, which results from wrestling with experiences and attempting to integrate them into one's understanding, will lead training participants to feel more committed to the discoveries made and more comfortable with the process of changing their work style.

2. **Learning is relevant to job experience:** Training sessions and workshops will focus on actual job tasks, rather than generic skills whenever possible. Ideally, participants will have at least minimal experience with an application prior to a formal training session so that they can identify specific job-related tasks to learn. In effect, training participants should leave a workshop with an experience that they can immediately use in their job function. Importantly, staff members will also be encouraged to take reasonable risks in the creative use of technology for teaching and administrative purposes. This will help sustain motivation and encourage improvements in productivity and efficiency. Staff development opportunities will be presented at several levels to meet the varied needs and technological strengths of a diversified professional community.

3. **Time is provided for reflection and collaboration:** Teachers, administrators and support staff will be allotted time to work with new technology to realize its full potential. The district will implement new technologies in an incremental fashion with generous on-site support to create an effective learning environment for our users. Sufficient learning time and quality support will help users learn to exploit the benefits of a new system.

4. **There is a strategy for ongoing communication:** Efforts will continue to be made to provide users with opportunities to stay current with skills necessary to function in a world that is continually changing. Intensive training workshops will be supported with scheduled follow-up sessions that will provide users with opportunities to celebrate successes, share frustrations and learn new skills.

STAFF DEVELOPMENT NEEDS		
INSTRUCTIONAL	***TECHNICAL***	***LEADERSHIP***
• Good Practice • Supports Standards • Constructivist • Active and Collaborative • Instructional Software ions	• File Management • Security • Safety • Account Managemer • Software • Hardware	• Vision Building • Supervise • Evaluate • Collaborate

STAFF TECHNOLOGY ASSESSMENT RUBRIC:

OUTCOME:

The staff will be computer literate and serve as facilitators and mentors rather than as lecturers and purveyors of information.

INDICATORS:

Teachers will be able to utilize technology based skills and software applications.

Teachers will develop a variety of interdisciplinary tasks and projects designed to give all students:

1. Opportunities to develop technical competencies.

2. Opportunities to work in groups to solve problems.

3. Opportunities to investigate real situations.

4. Opportunities to utilize a global wide variety of information via networks and telecommunications.

Teachers will develop alternative ways of assessing student performance.

RUBRICS:

4

The teacher will be able, without assistance; to utilize all the technology based skills and software applications available to him/her to assist students in their use of technology, to create a variety of interdisciplinary tasks and projects and to develop alternative ways of assessing student performance.

3

The teacher will be able to utilize all the technology based skills and software applications available to him/her to assist students in their use of technology, to create a variety of interdisciplinary tasks and projects, and to develop alternative ways of assessing student performance, but may not be able to do all of this without some assistance from the CRT.

2

The teacher is able to utilize some of the available technology and software but is not able to do so without assistance from others.

1

The teacher is not able to utilize available technology and software.

K-8 COMPUTER TECHNOLOGY SKILLS

Basic Computer Concepts and Operations	K	1	2	3	4	5	6	7	8
Students will learn and be able to:									
Identify the main parts of the computer (keyboard, monitor, mouse, drives and shutdown)	X	X	X	X	X	X	X	X	X
Login and logout of computers properly	X	X	X	X	X	X	X	X	X
"Launch" programs	X	X	X	X	X	X	X	X	X
Use mouse correctly	X	X	X	X	X	X	X	X	X
Place the cursor at a specific location on the screen	X	X	X	X	X	X	X	X	X
Double-click to open folders	X	X	X	X	X	X	X	X	X
Open and close computer programs	X	X	X	X	X	X	X	X	X
Print files under teacher direction	X	X	X	X	X	X	X	X	X
Print files independently			X	X	X	X	X	X	
Toggle between 2 programs				X	X	X	X	X	X
Show and hide toolbars					X	X	X	X	X
Use short cuts to perform functions in various applications					X	X	X	X	X
Print specific pages					X	X	X	X	X
Access files from documents folder and shared folder with teacher assistance					X	X	X	X	X
Save files to documents folder during whole group lessons					X	X	X	X	X
Save to documents folder and shared folder					X	X	X	X	X
Access files from documents folder and shared folder					X	X	X	X	X
Manipulate graphics (sizing, moving, text wrap, etc.)					X	X	X	X	X
Change page orientation					X	X	X	X	X

Save to documents and shared folders independently					X	X	X	X	X
Create folders to organize files					X	X	X	X	X
Delete files and folders from documents folder						X	X	X	X
Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use								X	X
Technology Productivity Tools / Keyboarding	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Students will be able to:									
Use correct posture	X	X	X	X	X	X	X	X	X
Begin to locate and use letters, numbers, etc.	X	X	X	X	X	X	X	X	X
Identify and locate special keys such as, enter, spacebar, caps lock, shift keys	X	X	X	X	X	X	X	X	X
Introduce home row and correct finger placement				X	X	X	X	X	X
Use proper fingering techniques				X	X	X	X	X	X
Use proper typing technique with efficiency and accuracy without looking at the keyboard						X	X	X	X
Review and use correct posture and "home row" typing positions introduced in earlier grades. Encourage students to type classroom reports and assignments using correct finger positions							X	X	X

Social, Ethical, and Human Issues	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Students will learn and be able to:									
Discuss and comply with Network Use & Internet Policy	X	X	X	X	X	X	X	X	X
Demonstrate appropriate computer etiquette	X	X	X	X	X	X	X	X	X

Respect the privacy of all users	X	X	X	X	X	X	X	X	X
Use appropriate judgment upon entering Internet sites				X	X	X	X	X	X
Citing material taken from another source, under issues of plagiarism as they apply to information technology					X	X	X	X	X
Obey copyright laws regarding student generated material					X	X	X	X	X
Demonstrate proper use of transferring files from home to school					X	X	X	X	X
Determine what is accurate information found on the internet					X	X	X	X	X
Appropriately cites sources using prescribed formats						X	X	X	X
Understand and observe information technology licensing restrictions						X	X	X	X
Exhibit ethical behavior relating to privacy, ethics, passwords and personal information								X	X
Demonstrate and understand copyright by citing sources of copyrighted materials in papers, projects and multimedia presentations								X	X

Word Processing	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Students will learn and be able to:									
Type first name, ABC's, #'s and/or simple words	X	X	X	X	X	X	X	X	X
Use the delete and backspace appropriately		X	X	X	X	X	X	X	X
Perform basic formatting tasks including font, style, color, bold, italic, underline, alignment			X	X	X	X	X	X	X

Use simple text editing skills			X	X	X	X	X	X	X
Insert clip art			X	X	X	X	X	X	X
Type short writing pieces			X	X	X	X	X	X	X
Type with one space between word between words and be consistent with spacing after a sentence (1 or 2 spaces is acceptable)			X	X	X	X	X	X	X
Use the return and tab keys			X	X	X	X	X	X	X
Use spell check and thesaurus			X	X	X	X	X	X	X
Rename and move files				X	X	X	X	X	X
Select and deselect text				X	X	X	X	X	X
Cut, copy, paste, within a document				X	X	X	X	X	X
Use page setup options				X	X	X	X	X	X
Use borders/drawing tool/graphics				X	X	X	X	X	X
Insert graphics from outside source				X	X	X	X	X	X
Use formatting functions and numbering, indents, page breaks, margins and columns						X	X	X	X
Copy and paste information from the internet into a Microsoft Word document for note taking purposes							X	X	X
Use the Thesaurus tool to broaden their scope of word use							X	X	X
Cite Internet sources							X	X	X

Presentation Software	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Students will learn and be able to:									
Open and exit presentation application	X	X	X	X	X	X	X	X	X
Create a new slide or presentation and open a saved slide or presentation				X	X	X	X	X	X
Choose a layout				X	X	X	X	X	X
Change order of slides				X	X	X	X	X	X

Cut, copy, paste within a presentation				X	X	X	X	X	X
Insert or delete slides				X	X	X	X	X	X
Arrange objects on the slide				X	X	X	X	X	X
Save a presentation				X	X	X	X	X	X
Add slide transitions to the slide show				X	X	X	X	X	X
Present presentation to an audience				X	X	X	X	X	X
Use text special effects such as Word Art					X	X	X	X	X
Insert graphics, clip art and/or digital pictures				X	X	X	X	X	X
Add animation to text and graphics					X	X	X	X	X
Edit color schemes and layout arrangement				X	X	X	X	X	X
Insert movie clips and recorded sound					X	X	X	X	X
Edit clip art						X	X	X	X
Research, create, publish and present projects related to content areas using a variety of tools								X	X
Choose and create charts or graphic (tables) that best represents data								X	X
Design, develop, publish, and present products (e.g., Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom								X	X

Technology Problem-Solving, Research, Decision-Making Skills	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Students will learn and be able to:									
Access and retrieve information from a variety of sources				X	X	X	X	X	X

Locate information on a subject using electronic encyclopedias				X	X	X	X	X	X
Locate information outside the library media center using online database				X	X	X	X	X	X
Identify and differentiate between primary and secondary sources				X	X	X	X	X	X
Search the internet by utilizing search strategies: keywords, concepts, subjects, headings				X	X	X	X	X	X
Utilize multiple search engines to locate information for research					X	X	X	X	X
Produce research project incorporating information retrieved from three or more different types of sources						X	X	X	X
Determine the reliability of information found on an internet site						X	X	X	X
Research and evaluate the accuracy and appropriateness of electronic information sources concerning real-world problems						X	X	X	X
Demonstrate information organization skills; use cut/copy paste and downloading features to take notes from internet sites on information in various subjects						X	X	X	X
Differentiate among fact, opinion, propaganda, point of view, and bias of an internet site						X	X	X	X
Select and use appropriate tools and technology resources to accomplish a variety of tasks and problems						X	X	X	X

Decide and evaluate the information from electronic sources as to the effectiveness, content and usefulness								X	X

Internet skills	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Students will learn and be able to:									
Use a web browser				X	X	X	X	X	X
Use teacher-centered web based activities on topics of study (i.e. scavenger hunts/Web Quests)				X	X	X	X	X	X
Discuss reliability of sources					X	X	X	X	X
Add sites to favorites						X	X	X	X
Make hyperlinks to Internet sites from documents and presentations						X	X	X	X

Effective Research Strategies	**K**	**1**	**2**	**3**	**4**	**5**	**6**		
Students will learn and be able to:									
Use teacher chosen web sites/ reference software to extract and gather information for research				X	X	X	X		
To access real data on topics of study				X	X	X	X		
Use research to gather information for presentations				X	X	X	X		
Cite sources				X	X	X	X		
Copy/paste text and pictures to word processing and multimedia programs				X	X	X	X		
Use effective search strategies to find appropriate sites				X	X	X	X		
Determine what information is important for the given task				X	X	X	X		
Determine what is accurate information				X	X	X	X		

Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems						X	X		

Electronic Graphic Organizers	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Students will learn and be able to:									
Open and work with activities in Kidspiration (K-3) or templates in Inspiration (3-6) under teacher direction	X	X	X	X	X	X	X	X	X
Create simple graphic organizers		X	X	X	X	X	X	X	X
Organize ideas for writing		X	X	X	X	X	X	X	X
Create graphic organizers in language arts, social studies and science			X	X	X	X	X	X	X
Change the fill and text colors, font, and size of symbols			X	X	X	X	X	X	X
Add pictures to their graphic organizers			X	X	X	X	X	X	X
Use activities (Kidspiration) or templates (Inspiration) to create graphic organizers				X	X	X	X	X	X
Use outline feature when preparing to write				X	X	X	X	X	X

K-6 COMPUTER TERMINOLOGY

The following is a list of basic computer related terminology. An understanding of common vocabulary will enhance student learning. Terms are listed by grade level at which they will be introduced. The skills and their related vocabulary at each grade level build upon what was taught previously.

Kindergarten:

Click – press and let go of mouse button once quickly
Close – finish working on a file
Computer – machine that works with, or processes, information that you give it
Cursor – blinking dot or line that marks the place on the screen where the next letter or
symbol you type will appear
Desktop – screen that displays icons for programs, files, and folders
Double-click – press and let go quickly of mouse button twice
Enter key – command key; also, moves cursor to the next line
Icon – small picture or image on the monitor
Keyboard – tool used for typing information into the computer
Log in – connect to the computer network
Log out – disconnect from the computer network
Monitor – computer screen
Mouse – a pointing device used to control the position of the cursor and to click on icons
Mouse pad – the pad the mouse moves on
Open – opens work or a program that has been highlighted
Printer – prints information on paper
Program – piece of software or application
Quit – exit from a program
Return key – command key; also, moves cursor to the next line
Shift key – capital letters produced when this key is held down when typing a letter
Spacebar – long bar on the keyboard that types spaces
Speaker – lets you hear information

Grade One:

Backspace – erases characters to the left of the cursor
Caps lock – capitalizes a whole word or sentence

Close box – little square in the upper left hand corner of a window which, when clicked,
closes the window
Delete key – erases information from the computer
Files – data that is stored in the computer
Folder – holds files
Save – used when saved work already has a title
Save as – used when work needs a title before saving
Scroll – move lines of text up, down, or from side to side
Shutdown – turn off computer
Window – box that appears on screen when you run a program
Word processing – set-up, editing (revising and correcting), saving, and printing text

Grade Two:

Align – position text on a screen either centered, left or right
Clip Art – pictures
Data – information that you input to a computer, or that the computer outputs
Database – information stored in a file
Desktop – screen that displays icons for programs and files
Deselect – to click off a selected item
Document – file created containing text and/or graphics

Document folder – folder containing user's work
Drag – moving the mouse while holding the button down to move objects on the screen
Font – characters that come in different styles
Highlight – to select, usually by clicking or dragging with the mouse
Menu – a list of commands or options to choose from
Menu bar – a horizontal strip across the top of a program containing commands or options
Select – to pick or choose
Spell check – word processing tool to check correct spelling and grammar
Style – the type of font
Tab key – moves the cursor to the next tab stop

Grade Three:

Bold – heavy-faced (dark) font
CD-ROM – a flat round disk that stores software or data

Crash – when a computer suddenly stops working
Disk – used to store a program or data
Disk drive – a disk player that runs a disk; can read information on a disk or save information to a disk
Email – electronic mail sent from one computer to another
Finder – program used to find files
Graphics – pictures
Hardware – the parts of the computer that you can see and touch
Home row keys – keys where fingers rest when typing
Hyperlinks – clicking on text or images that connect you to other text or images
Internet – worldwide network of computers
Italics – a font style with characters that slant upward to the right
Memory – the part of a computer where information is stored
Network – a system of interconnected computers
Search engine – software that makes it possible to look for and get material on the internet
Slide – one screen in a multimedia presentation
Slide show – a presentation containing more than one slide
Software – computer program
Text wrap – words automatically move from one line to the next or around a picture
Transitions – special effects used to go from one slide to another in a slide show
Web browser –program used to view web pages

Grade Four:

Animations – moving graphics on a computer screen
Application – computer software that performs a task such as word processing or drawing
Cell – box on a spreadsheet or database that holds data
Cite sources – give credit for information used (similar to a bibliography)
Field – one piece of information in a database
Footer – text that appears at the bottom of every page of a document
Header – text that appears at the top of every page of a document
Input – information that you enter into a computer
Launch – start a program
Launcher – window that shows the icons for programs that can be opened
Layout – the arrangement of text and graphics in a document or information in a database

Output – what the computer produces
Page orientation – direction information is laid out on a computer screen or printed page;
landscape has a horizontal layout and portrait has a vertical layout.
Record – collection of related fields in a database; one "card" in a database
Shared folder – folder on a network where a group can share work
Shortcuts – one or more keys you press on the keyboard to complete a task
Spreadsheet – software that works with calculating numbers
Template – predesigned document to which information is added
Thesaurus – word processing tool used to suggest synonyms and antonyms
Toggle – switch between open programs
Toolbar – rows of command buttons

Grade Five:

Action button – used to create actions in a slide show (i.e. change slides, play a sound, create animation)
Application menu – icon in the upper right hand corner of the screen that shows the program that is open
Application switcher – a part of the operating system that allows you to switch between
each of the applications that are running at the same time
Export – take data from one application and use it in another
Import – use data produced by another application
Page break – where one page ends and another begins
Print area –defined area in a file that will be printed

Grade Six:

Formula – equation that performs a calculation on a spreadsheet
Operating system – base software in the computer that all other programs run off of

K- 6 WEB SITES

The following are general web sites that include information for both Social Studies and Science curriculum units. Please check the POB Social Studies Curriculum for many teachers' web sites. These lists are by no means definitive and will change constantly.

- www.eduref.org (formerly askeric)
- www.enchantedlearning.com/home.html
- www.intel.com/education/unitplans (select Sort Exemplary Plans)
- http://enc.org/weblinks/lessonplans
- www.kn.pacbell.com/wired/bluewebn
- http://school.discovery.com/lessonplans
- www.exploratorium.edu
- www.kids.gov
- www.socialstudiesforkids.com
- www.aolatschool.com
- http://sln.fi.edu/learn/html
- www.weeklyreader.com
- www.timeforkids.com
- www.lihistory.com
- www.whitehouse.gov/history/life
- www.whitehouse.gov/whitehouskids.gov
- www.uen.org/utahlink/tours/fieldtrips2.htm
- www.50states.com
- www.kidclick.org
- www.Marcopolo.com

The following are examples of suggested web sites that correlate with a sampling curriculum units in Social Studies and Science. Sites for both teachers and students are included.

Social Studies

Kindergarten

Thanksgiving

- http://teacher.scholastic.com/thanksgiving/tguide/teaching_prek-1.htm

Holidays

- www.sunniebunniezz.com/holiday/holiday.htm

Grade One

Rights and Responsibilities

- www.teacher.scholastic.com/lessonrepro/lessonplans/theme/resp23.htm

Grade Two

Communities Change Over Time

- www.edsitement.neh.gov/view_lesson_plan.asp?ID=260
- www.nationalgeographic.com/xpeditions/lessons/18/gk2/changingtown.html

My Community and Region Today

- www.bensguide.gpo.gov/k-2/neighborhood/index.html
- www.teacher.scholastic.com/commclub/index.htm

Grade Three

Communities Around the World

- www.countryreports.org

Brazil

- www.uen.org/utahlike/tours/toursFrames.cgi?tour_id=7102

Grade Four

New York State Native Americans

- www.kidsclick.org/cgi-bin/searchkids.pl?keywords=Native+Americans+Eastern&searchtype=all
- www.rom.on.ca/digs/longhouse

Exploration of New York State and Region

- www.socialstudiesforkids.com/subjects/henryhudson.htm

Science

Kindergarten

Senses

- www.teacher.scholastic.com/lessonrepro/lessonplans/noseknows.htm

Grade One

Eggs to Toads

- www.enchantedlearning.com/subjects/amphibians/frogs.shtml
- www.kiddyhouse.com/themes/frogs/frogs/htm
- www.intel.com/education/unitplans/pond/pond.htm

Grade Two

Plant and Animal Life Cycles

- www.enchantedlearning.com/subjects/insects/insects/beetles/mealworm/mealwormlifecycle.shtml
- www.enchantedlearning.com/subjects/planats/index.shtml
- www.enchantedlearning.com/classroom/quiz/plants.shtml

Air and Weather

- www.wildwildweather.com/index.html

Grade Three

Butterflies and Moths

- www.fmnh.org/butterfly/basics.htm
- www.teacher.scholastic.com/products/instructor/monarchs.htm

Buoyancy

- www.intel.com/education/unitplans/float/float.htm

Grade Four

Crayfish

- www.enchantedlearning.com/subjects/invertebrates/crustacean/crayfishprintout.shtml

Magnetism and Electricity

- www.sln.fi.edu/qu99/spotlight3/index.html

Grade Six

Science sites

- www.NASA.gov
- www.Nineplanets.org
- www.JPL.NASA.gov
- www.Technospudprojects.org
- www.Schooldiscovery.com
- www.All-science-fair-projects.com

SEVENTH GRADE

Students will show a mastery of the necessary functions for basic computer applications. The students will be reviewing the different computer types, the variety of computer uses, and the laws and how those laws apply to the student. Students will be reinforcing their keyboarding skills and be taking timed tests and be given additional opportunities to complete classroom projects in an assisted lab environment. Keyboarding sessions in the lab will be coordinated with classroom teacher to compliment and coincide with classroom assignments and activities. Projects will include numerous research activities using the Internet on an individual basis as well as working as a "team" and illustrate assignments.

Computer Applications

- Students will demonstrate knowledge and skills in the use of computer and other technologies.
- Review and use advanced concepts to apply spreadsheet data (merging files and data) to solve problems. (SS/T)
- Review and perform advanced database applications to solve problems. (DB/T)
- The student will demonstrate variety of technologies to access, analyze, interpret, synthesize, apply and communicate information.
- Select and use technology tools to collect, analyze and display data.
- Research, create, publish and present projects related to content areas using a variety of tools. (KU/WP/DTP/T/SS/DB/M/P)
- Search and sort information using more than one parameter and explain strategies used to find data. (DB)
- Originate and modify the use of a database relevant to a class project. (DB)
- Originate and modify the use of a spreadsheet to solve problems related to area using formulas/functions. (SS/KU)
- Create and format charts or graphic (tables) that best represents data. (SS)
- Use word processing, desktop publishing for projects or assignments. (WP/DTP/KU)
- Direct online research and evaluate the information found as to the effectiveness, content and usefulness, etc. (T)
- The student will understand important issues of a technology-based society and will demonstrate ethical behavior in the use of computer.
- Exhibit ethical behavior relating to privacy, ethics, passwords and personal information.
- Demonstrate and understand of copyright by citing sources of copyrighted materials in papers, projects and multimedia presentations. (M/P/T/KU/WP)

Key Codes: KU=KEYBOARD UTILIZATION; WP=WORD PROCESSING; DTP=DESKTOP PUBLISHING; SS=SPREADSHEET; DB=DATABASE; T=TELECOMMUNICATIONS

Keyboarding Skills

- Correct Position & Posture- Review and use correct posture and "home row" typing positions introduced in earlier grades. Encourage students to type classroom reports and assignments using correct finger positions.
- Accuracy- Emphasize importance of accuracy in touch-typing.
- Skills- Review and use the keyboard already learned in earlier grades.
- Speed- Encourage students to try for greater speed, but not at expense of accuracy or correct posture and position. Demonstrate one minute timed writings and work their way up to five-minute timings. These timings will help students set reachable goals.

Classroom teachers will give students extra typing practice and reinforce correct keyboarding techniques using a typing program. Lab keyboarding sessions are intended to (1) focus students on proper techniques, (2) introduce new concepts and (3) give students additional opportunities to complete classroom projects in an assisted lab environment. Keyboarding sessions in the lab will be coordinated with classroom teacher to compliment and coincide with classroom assignments and activities.

Programming

Review the concept of multiple programming languages and relationship of programming languages to machine code. Understand some of the basic concepts of web design.

Review the concept of oriented programming languages and what the future might look like.

EIGHTH GRADE

Students will show a mastery of the necessary functions for basic computer applications. The students will be reviewing the different computer types, the variety of computer uses, and the laws and how those laws apply to the student. Students will be reinforcing their keyboarding skills and be taking timed tests and be given additional opportunities to complete classroom projects in an assisted lab environment. Keyboarding sessions in the lab will be coordinated with classroom teacher to compliment and coincide with classroom assignments and activities. Projects will include numerous research activities using the Internet on an individual basis as well as working as a "team" and illustrate assignments.

Computer Applications

- Students will demonstrate knowledge and skills in the use of computer and other technologies.
- Review and use advanced concepts to apply spreadsheet data (using the Internet and other sources). (SS/T)
- Review and perform advanced database applications to solve problems (using the Internet and other sources). (DB/T)
- The student will demonstrate variety of technologies to access, analyze, interpret, synthesize, apply and communicate information.
- Select and use technology tools to collect, analyze and display data.
- Research, create, publish and present projects related to content areas using a variety of tools. (KU/WP/DTP/T/SS/DB/M/P)
- Search and sort information using more than one parameter and explain strategies used to find data. (DB)
- Originate and modify the use of a database relevant to a class project. (DB)
- Create a spreadsheet to solve problems related to area using formulas/functions. (SS/KU)
- Choose and create charts or graphic (tables) that best represents data. (SS)
- Use word processing, desktop publishing for projects or assignments. (WP/DTP/KU)
- Decide and evaluate the information from electronic sources as to the effectiveness, content and usefulness. (T)
- The student will understand important issues of a technology-based society and will demonstrate ethical behavior in the use of computer.
- Exhibit ethical behavior relating to privacy, ethics, passwords and personal information.
- Demonstrate and understand of copyright by citing sources of copyrighted materials in papers, projects and multimedia presentations. (M/P/T/KU/WP)

Keyboarding Skills

- Correct Position & Posture- Review and use correct posture and "home row" typing positions introduced in earlier grades. Encourage students to type classroom reports and assignments using correct finger positions.
- Accuracy- Emphasize importance of accuracy in touch-typing.
- Skills- Review and use the keyboard already learned in earlier grades.
- Speed- Encourage students to try for greater speed, but not at expense of accuracy or correct posture and position. Demonstrate one minute timed writings and work their way up to five-minute timings. These timings will help students set reachable goals.

Classroom teachers will give students extra typing practice and reinforce correct keyboarding techniques using a typing program. Lab keyboarding sessions are intended to (1) focus students on proper techniques, (2) introduce new concepts and (3) give students additional opportunities to complete classroom projects in an assisted lab environment. Keyboarding sessions in the lab will be coordinated with classroom teacher to compliment and coincide with classroom assignments and activities.

Programming

- Review the concept of multiple programming languages, Visual Basic, Html, etc.
- Review the concept of oriented programming languages and what the future might look like.

ISTE's National Educational Technology Competencies for Students by Grade Level

	Technology Foundation Standards					
Prior to completion of Grade 8, students will:	**1**	**2**	**3**	**4**	**5**	**6**
1. Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use.	1					
2. Demonstrate knowledge of current changes in information technologies and the effect those changes have on the workplace and society.		2				
3. Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse.		2				
4. Use content-specific tools, software, and			3		5	

simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools) to support learning and research.						
5. Apply productivity/multimedia tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum.			3			6
6. Design, develop, publish, and present products (e.g., Web pages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom.				4	5	6
7. Collaborate with peers, experts, and others using telecommunications and collaborative tools to investigate curriculum-related problems, issues, and information, and to develop solutions or products for audiences inside and outside the classroom.				4	5	
8. Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems.					5	6
9. Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and of practical applications to learning and problem solving.	1					6
10. Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems.		2			5	6

7th & 8th Grade Math Web Sites

A+ Math
www.aplusmath.com
For kids, with game room, homework helpers, etc.

The Abacus
www.ee.ryerson.ca:8080/~elf/abacus
This site explains how the abacus is used

Connected Math
www.math.msu.edu/cmp
The connected Math project website

Cool Math
www.coolmath.com
Mathematician "Karen" provides a fun web site for teachers and students

Final Bell
www.sandbox.net
Play the stock market online

Famous Mathematicians
www.groups.dcs.st-
Biographies of every mathematician ever (many obscure)

How to make a Tessellation
www.members.tripod.com
step-by-step explanation of how to create tessellations

Math City
www.nycenet.edu/mathcity
Kids in New York City need your help to solve problems

Movie Math
www.world.std.com/~reinhold/mathmovies.html
Uses of math portrayed in major motion pictures

The National Council of Teachers of Mathematics
www.nctm.org
NCTM home page and links

Webmath
www.webmath.com
Online help for students' math problems

7th & 8th Grade Science Web Sites

Discovery Channel Online
http://animal.discovery.com
Great site for animal information and news

National Geographic Online
http://www.nationalgeographic.com
This site is great for exploration, field science, conservation, and learning about our world.

Enchanted Learning
http://www.zoomschool.com
Zoom School is an on-line classroom with lessons in geography, biology, and language arts,

Regents Review Websites

http://www.regentsprep.org/regents/earthsci/earthsci.cfm
Oswego Union School district Regents review center

http://www.wnye.nycenet.edu/regents/
Regents Review Live! on Channel 25 in New York City, and live on the internet! These programs are produced by The New York Network, a service of The State University of New York, in collaboration with the Teacher Resource and Computer Training Centers of New York State.

MIDDLE SCHOOL SAMPLE LESSON PLAN
Language Arts

Objective:

The students will use Newsday Online as source of obtaining current news articles and information.

The students will learn how to toggle between two programs. They will use Newsday Online for information and copy and paste it into a Microsoft Word document.

Procedure:

The teacher will introduce Newsday Online as another source for obtaining news.
The teacher will introduce the site to the students using the projector.
The teacher will show the students the Long Island section, the forecast, the Business section, Health and Science section, State news, Editorials and video news clips.

The teacher will demonstrate how to download an article to use for their current events assignment.

The teacher will demonstrate how to toggle between 2 programs and copy and paste.

Evaluation:

The teacher will walk around the room evaluating the student's progress and she will review the copies of the Scavenger Hunt.
The teacher will collect a printed article from Newsday Online.
Follow-Up lesson: The students will compare and contrast the Newsday paper edition and Newsday Online using a Venn diagram.
Materials:
Computers, projector, Newsday Online, teacher created Scavenger Hunt, and printer

SAMPLE STUDENT WORKSHEET

Name:_____

Newsday Online Scavenger Hunt

Directions: Use Newsday online to find the following items. You may cut and paste whenever possible. When you are finished, you may print your results.

1. What is the current temperature?

2. Cut and paste the forecast for Friday?

3. Cut and paste the headline of the featured Long Island article.

4. Cut and paste a headline about the debate last night.

5. Cut and paste a headline from Monday's paper.

6. How many stars did the movie Shark Tale receive?

7. Cut and paste the title of an editorial from today's paper.

8. Cut and paste a headline from today's business section.

9. Cut and paste a headline from the Health/Science section.

10. Find a video clip of a news story. Watch it. Who or what was it about?

NINTH - TWELTH GRADE

The high school technology curriculum is not a discrete course of study; rather, it is a curriculum that is designed to be integrated into the total high school experience. This document presents a model for infusing technology standards, key concepts, benchmarks, and task assessments into the existing core curricula.

The following is a list of technology skills that each student should master by the time he/she completes the High School:

1. Identify and use the functions in word processing utilities including spell checker, electronic thesaurus, grammar checker, and outliner.
2. Given a prepared spreadsheet, use sorting and searching techniques to solve a specific problem.
3. Create a spreadsheet to enter, edit, and organize data and to explain the results of the changes using charts and graphs.
4. Given a prepared database, use sorting and searching techniques to solve a specific problem.
5. Understand the need for protection of software and hardware from computer viruses.
6. Discriminate between ethical and unethical access to information stored on computers, servers, and the Internet.
7. Identify terms related to computer-generated production (i.e. desktop publishing, clip art, hypertext, URL, multimedia, CD-ROM, scanners, camcorders).
8. Demonstrate effective use of Internet search skills including a variety of search engines and prioritizing queries. Correctly use the terms web site, search engine, and online database.
9. Demonstrate an understanding of the evaluation of validity of materials obtained from the Internet.
10. Correctly cite an electronic source including author, title, URL, date accessed, and date of last revision.
11. Understand the functions and ethical use of electronic mail.
12. Demonstrate the functions when using electronic mail including attachments.
13. Create and present a visual presentation (PowerPoint, Web Page, PhotoShop, Movies).

Technology in English/Language Arts Instruction

The new English/Language Arts Standards reflect the influence technology is having on the discipline. There is the need for students to be able to read a wide range of print and non-print text. The definition of text now explicitly includes multi-sensory forms of communication as well as print.

In reading instruction, electronic books, often on CD-ROM, turn reading from a static, print-based activity into a multi-sensory, interactive experience. Most print-based books

embody a story grammar or rhetorical structure that assumes the reader will start at the beginning and read through the page sequence to the end. Hypertext (characterized by links that one can click on with the mouse to go to another section) adds depth and elaboration to content through associative, audio, dynamic visual and video texts that affect the nature of reading and writing across the curriculum. When reading an electronic text, the reader can decide from among a number of reading paths which one to follow.

Electronic books often allow readers to adapt texts to their vocabulary level or prior knowledge through the use of audio, animated demonstration, and/or video clips that elaborate on meaning. It has been evidence that the adaptive features of electronic texts can individualize learning approaches and techniques according to the needs of individual learners.

Some students find writing skills particularly difficult to acquire because of the cumbersome process of having to revise their writing over and over again. However, today's word-processing tools allow students to edit their work efficiently and proficiently as long as students have solid keyboarding, software, and analytical skills. Word-processing technology supports such writing tasks as brainstorming, analyzing audience, defining a purpose, organizing content, structuring an argument, and evaluating one's own or another's writing.

Some of the popular types of technology used for English/language arts instruction include the following:

- Drill and practice in reading and writing to improve basic skills.
- Record keeping for self-monitoring.
- Word processing to support generating and organizing text.
- Software to support writing, including electronic grammar, spelling, and style checkers
- Authoring tools for creating multimedia presentations
- Multimedia reference tools, such as encyclopedias or the Internet, for student research
- Instructional vocabulary, phonics, and story mapping games
- Software for teaching reading strategies, including electronic books with multi-sensory stories
- Networked computers for participation in online learning communities with collaborative writing spaces

Useful Web Sites for English Instruction

Teachers can get ideas about how to integrate technology into their classrooms from these sites. The sites also have a great variety of lesson plans.

http://cyberbee.com/intclass.html
http://suite101.com/links.cfm/computerintegration

http://www.hpineducation.hp.com/k12/resources/resources.html
http://coweta.k12.ga.us/lessons/languagearts.html
http://www.dogpile.com
http://www.glc.k12.ga.us
http://www.techlearning.com

Grammar
http://englishgrammar101.com/
http://www.edunet.com/english/grammar/index.html
http://webster.commnet.edu/HP/pages/darling/original.htm

Literature
http://school.aol.com/highschool/language_arts_activities.adp
This site has on-line activities, study aids, and reviews for the Holt-Rinehart-Winston literature books.
http://www.people.virginia.edu/~jbh/litweb.html
Literary fiction and poetry
http://www.pacific.net/~johnr/aesop/
Aesop's fables
http://www.uiowa.edu/~english/litcult2097/tlucht/lit-yalib.html
Young adult literature
http://www.randomhouse.com/teachersbdd/trc_alphabetical.html
Young adult literature
http://www.geocities.com/~jacklondons/
Jack London
http://www.gerenser.com/lotfl
Lord of the Flies
http://www.csclub.uwaterloo.ca/u/relipper/tolkien/rootpage.html
J.R.R. Tolkien
http://sflovers.rutgers.edu/.index2.html
Science fiction
http://sflovers.rutgers.edu/archive/Web/SFRG/sf-resource.guide.html
Science fiction
http://www.kansas.net/~duncan/literature.html
Science fiction
http://www.pantheon.org/mythica/
Mythology
http://www.odinscastle.org/index.html
Mythology
http://www.bnl.com/shorts/
Short stories
http://www.themoonlitroad.com/ibo/intro_ibo001.html
Ghost stories and folktales
http://educeth.ethz.ch/english/readinglist/
American and English literature
http://www.sc.edu/fitzgerald/index.html

F. Scott Fitzgerald
http://lang.nagoya-u.ac.jpl~matsuoka/UK-author.html
British and Irish authors
http://home.earthlink.net/~feiffor/bard/body.html
Shakespeare
http://sterling.holycross.edu/departments/theatre/projects/isp/
Shakespeare
http://lang.nagoya-u.ac.jp/~matsuoka/AmeLit.html
American authors
http://andromeda.rutgers.edu/~jlynch/Lit/american.html
American authors
http://www.books.com/scripts/authors.exe
American authors
http://www.comnet.ca/~forrest/
Edgar Allan Poe
http://eldred.ne.mediaone.net/nh/hawthorne.html
Nathaniel Hawthorne
http://www.planet.net/pkrisxle/emily/dickinson.html
Emily Dickinson
http://www.Im.com/~joseph/mtwain.html
Mark Twain
http://www.columbia.edu/acis/bartleby/frost/
Robert Frost
http://www.lostgeneration.com/hrc.htm
Ernest Hemingway
http://ocean.st.usm.edu/~wsimkinssteinb.html
John Steinbeck
http://www.olemiss.edu/depts/english/ms-writers/dir/williams_tennessee/
Tennessee Williams
http://www.geocities.com/CollegePark/Classroom/3085/crucible.html
The Crucible
http://www.luminarium.org/contemporary/amytan/
Amy Tan

Poetry
http://www.people.virginia.edu/~jbh/litweb.html
Literary fiction and poetry
http://www.geocities.com/EnchantedForest/5165/index1.html
http://www.poets.org/litlitmain.htm
Audio files of poets reading their poems
http://shoga.wwa.com/~rgs/glossary.html
Poetry terms
http://www.lit.kobe-u.ac.jp/~hishika/20c_poet.htm
http://advicom.net/~e-media/kr/poetry1.html
Research
http://askeric.org

Writing
http://home.earthlink.net/~jesmith/Writing-critique.html
Tells how to write a critique of a novel
http://kidswriting.miningco.com/teens/kidswriting/cs/lessonplans/index.htm
Creative writing for teens
http://www.unc.edu/cit/tips/writing.html
http://www.dogpile.com
http://www.ResearchPaper.com
http://www.inkspot.com/joe/young/
http://web.cs.city.ac.uk/text/roget/thesaurus.html
Roget's Thesaurus
http://www.bham.wednet.edu/bio/biomaker.htm
Biography
http://www.eclectics.com/writing/writing.html
http://www.writesite.org/
http://www.gsn.org/kid/kc/index.html
http://www.epals.com/kpi.html
Communicate with students from other places
Varied Sites
http://www.ncte.org/
NCTE-National Council of Teachers of English
http://eserver.org/
The English Server
http://www.readingonline.org/home.html
http://www.wolinskyweb.com/word.htm
Playing with words
http://www.occdsb.on.ca/~redhtm/scaven.htm
Scavenger hunts
http://www.lessonplans.com/C!JH.htm
http://www.glc.k12.ga.us/
Georgia Learning Connections from the Georgia Dept. of Ed.
http://www.theteacherscorner.net
http://www.lessontutor.com/eescw9.html
http://www.media-awareness.ca/eng/med/class/teamedia/heroic.htm
http://www.users.totalise.co.uk/~sfawbert/edusite.htm
http://www.learn.motion.com/lim/links/lanlinks/lan.links
http://www.teleport.com/~mgroves/
http://www.ohiou.edu/esl/teacher/index.html
http://www.indiana.edu/~eric_rec/comatt/gmenu.html
http://www.Pages.ripco.net
http://www.Englishcompanion.com
http://www.Teachervision.com
http://www.sdcoe.k12.ca.us/score/cla.html
http://www.studyweb.com/Language_Arts/littoc.htm

Technology in Mathematics Instruction

The National Council of Teachers of Mathematics (NCTM) was the first professional organization to create national standards for appropriate uses of technology in a content area. NCTM recommends that:

- Appropriate calculators be available to all students.
- A computer be available in every classroom for demonstration purposes.
- Every student has access to a computer for individual and group work.
- Students learn to use the computer as a tool for processing information and performing calculations to investigate and solve problems.

The NCTM report, *Curriculum and Evaluation Standards for School Mathematics* (National Council of Teachers of Mathematics, 1989), states that exposure to appropriate experiences gives students' mathematical power. Mathematical power is defined as an individual's abilities to explore, conjecture, and reason logically, as well as the ability to use a variety of mathematical methods effectively to solve non-routine problems. This is based on the recognition of mathematics as more than a collection of concepts and skills to be mastered; it includes methods of investigating and reasoning, means of communication, and notions of context. In addition, for each individual, mathematical power involves the development of personal self-confidence. The hands-on learning experiences fostered through today's interactive technology applications empower students with a level of mathematical power they cannot achieve without technology.

Mathematics teachers were early users and champions of technology because much of the initial software that was available to schools assisted in the teaching of basic mathematics skills. Since then, many schools have reported that students who supplemented teacher-led instruction with individualized computer-assisted drill-and-practice did better in mathematics than students who received conventional instruction. But perhaps even more significant is that because the new technology made calculating and graphing easier, it changed the very nature of the problems that mathematics can solve and the methods mathematicians use to solve them. Generally speaking in mathematics education, technology serves as a tool for:

- Acquiring, evaluating, and processing numeric information.
- Performing calculations and interpreting trends.
- Graphing and communicating numeric information.
- Investigating and solving problems with mathematical premises.
- Creating and running models and simulations.
- Scaffolding higher levels of abstraction.

Useful Web Sites for Mathematics Instruction

National Council of Teachers of Mathematics
http://www.nctm.org
Home page of the professional organization that developed the first curriculum standards. Wide range of resources including journals, conferences, newsletters, and products. Electronic version of Principles and Standards (http://standards.nctm.org)

Math Forum
http://mathforum.com
Resources for students, teachers, and anyone interested in mathematics education. Among the best: Ask Dr. Math to answer questions), Problem of the Week challenges at all levels and math subjects), and Discussion Groups virtual communities interested in math).

Texas Instrument Resources for Educators
http://www.education.ti.com/educator/hilight/hilight.htm
As one would expect, this site includes numerous resources for using calculators and computers in the classroom. It also includes ideas for parents to help their children develop an interest in and comfort with mathematics.

Eisenhower National Clearinghouse
http://enc.org/
A collection of effective curriculum resources, high-quality professional development materials, and useful information and products to improve K-12 mathematics and science teaching and learning.

Cynthia Lanius Collection
http://math.rice.edu/~lanius/Lessons/
An outstanding collection of web-based, interactive mathematics lessons.

History of Mathematics
http://www-groups.dcs.st-and.ac.uk:80/~history/
Biographies, historical topics, even "famous curves" can be found at this comprehensive collection illustrating how mathematics has developed as a human endeavor.

Institute for Technology in Mathematics
http://www.wpunj.edu/icip/itm/
An electronic community which explores and works with the curriculum transformation process using technology within the mathematics classroom.

PBS Mathline
http://www.pbs.org/teachersource/math.htm
High-quality lessons, activities, and professional development for teachers addressing mathematics concepts and connection.

Technology in Mathematics Education: Internet Resources. ERIC Digest.
http://www.ericdigests.org/2000-2/internet.htm
Digital technology resources for calculators, computers, educational software, and calculator-based laboratories (CBL) used in the learning and teaching of mathematics.

Technology in Science Instruction

Science is very conducive to the use of hands-on technologies. In real life, scientists are heavy users of technology and are highly dependent on it to conduct their work. Yet, surprisingly, the National Assessment of Educational Progress Survey showed that except for social studies (8%), science teachers were the lowest users of technology among the major content areas. The report indicated that only 12 percent of college bound students reported using computers in their science courses. This number is in sharp contrast to 72 percent using computers in schools for word processing, 44 percent for English classes, and 27 percent for mathematics (National Center for Education Statistics, 1997).

A coalition of organizations under the auspices of the National Research Council (1996) released science education standards for the nation. They included technology standards, such as being able to use technology to study scientific processes, explore new scientific knowledge, and understand the impact of technology on living organisms. Network Science Models represent a promising use of technology to meet the science standards. Through telecommunications, usually the Internet, students at several schools work collaboratively to collect data. They then organize and analyze the data and share their findings with others. For example, one test bed project called for students' exploration and data collection of wetlands, providing hands-on learning experiences with the scientific research methods. Students disseminated data given by other schools through satellite broadcasts. They explained the results of their inquiry and compared them with the results of other schools working on the same unit. Much of the research of the student teams depended on the information that was downloaded and discussed during interactive broad-casts.

Some concerns about using technology in science revolve around costly safeguards for high-end technology equipment, including specialized computers; probes; temperature, motion, color and other sensing devices; data analysis; and display tools. Additionally, many excellent applications of technology in science require ready access to the Internet, which is not yet available in many classrooms. While weary of outdated drill-and-practice technology in their science classes, many educators are not aware of the educational software built for scientific inquiry and discovery. Types of technology commonly used for science include:

- Simulation and demonstration tools that show how concepts apply to real-world phenomena.
- Exploration and guided practice tools that assist students' use of scientific knowledge.
- Online data-sharing communities involved in scientific inquiry.
- Reference CD-ROMs and Web sites for information research.
- Problem-solving tools that foster scientific thinking.
- Creative activity tools that encourage students to imagine probabilities.
- A range of digital and electronic instrumentation.

Useful Web Sites for Science Instruction

National Science Teachers Association
http://www.NSTA.org
Home page for the professional organization for science educators. This site includes information regarding conferences, publications, and curriculum for the teaching and learning of science.

American Association for the Advancement of Science
http://www.AAAS.org
AAAS is the parent organization for Project 2061. Project 2061 is a long-term project that focuses on science education reform.

National Science Resource Center
http://www.si.edu/nsrc/default.htm
The NSRC collects and disseminates information about exemplary teaching practices, curriculum, and resources.

The following web sites are Science Education research projects that contain exemplary curriculum projects and technologies:

EduTech Institute
http://www.cc.gatech.edu/edutech/index.html
An education research institute affiliated with Georgia Institute of Technology that focuses on the innovative use of technology to support science, math, and design education.

Learning Research and Development Center
http://www.lrdc.pitt.edu/
LRDC is a large research center based at the University of Pittsburgh and dedicated to improving the learning of children and adults in a variety of settings.

Concord Consortium
http://concord.org/
The Concord Consortium is a nonprofit research and development organization dedicated to a revolution in education through the use of information technologies.

MIT Media Laboratory Research Group
http://www.media.mit.edu/
The home page for the MIT Media Laboratory describes its mission as "enabling technologies for learning and expression by people and machines."

Eisenhower National Clearinghouse
http://www.enc.org
This is the web site of the Eisenhower Foundation, which awards grants to science education projects.

Web-Based Integrated Science Environment (WISE)
http://wise.berkeley.edu/welcome.php
This project, based out of the University of California at Berkeley, focuses on the development of adaptable inquiry-based science curriculum.

Science Controversies On-Line
http://scope.educ.washington.edu/
This project is the next generation of WISE curriculum.

Center for Learning Technology in Urban Schools
http://www.letus.org/
This center is a collaborative enterprise between two major research institutions (University of Michigan and Northwestern University) and two major urban school districts (Chicago Public Schools and Detroit Public Schools). The center is exploring the use of technology to facilitate the learning of science.

Technology in Social Studies Instruction

Technology is also valuable in social studies. For example, many advocates using geographical, mapping, and history-based software applications, as well as age-appropriate simulations with elementary students who are expanding their understanding of the world beyond themselves and their families. Simulations offer students the opportunity to participate in historical events or major decision-making events by virtue of role playing. Whether studying the 50 states or debating the pros and cons of declaring American's independence from England, students will find a wealth of excellent technology-based applications to make exploring social studies themes exciting. Suggested types of technology tools for social studies include:

- Databases and graphing and charting software for conducting comparative studies of demographic trends.
- Electronic atlases and laserdiscs, videos, and CD-ROM images for developing an understanding of geographical and physical characteristics.
- Telecommunications, especially the Internet, for conceptualizing self, family, and community contexts around the world and for demonstrating characteristics of our global village.
- Simulations for role-playing activities of historical events.
- Statistical programs for conducting quantitative research and for analyzing results.

Useful Web Sites for Social Studies Instruction

National Council of Social Studies
http://www.ncss.org/
This website has links for information about membership, publications, conferences, and initiatives.

The White House for Kids
http://www.whitehouse.gov/kids/index2.html
Tour the White House with Socks and Buddy, write to the President, and explore the history of the house and its inhabitants.

History/Social Studies Website for K-12 Teachers
http://my.execpc.com/~dboals/boals.html
The purpose of this site is to help promote the teaching of social studies using the WWW. Resources for teaching a variety of subjects and links to research tools are available.

Ancient World Web

http://www.julen.net/ancient/
This site has links to anything connected to the ancient world. Users can find texts of ancient Greek poetry or links to the Xena-Warrior Princess homepage.

American Civil War Resources Page
http://sunsite.utk.edu/civil-war/
This website provides links to the most useful identified electronic files about the American Civil War and is a comprehensive collection of information, images, and resources about the events of the Civil War.

History of Western Civilization links
http://history.evansville.net/index.html
Designed to enhance history instruction by providing an artistic perspective, this site provides collections of information, images, and resources to support instruction in World History, Art History, and Western Civilization.

Smithsonian Institution
http://www.si.edu/
Resources include online publications and photographs, historical perspectives, and online tours.

Library of Congress
http://www.loc.gov/
Contains a variety of excellent resources, including sections on legislative information, library services, exhibitions, research tools, and exploring the Internet.

Edsitement
http://edsitement.neh.gov/
Provides links and search capabilities for a number of sites dealing with the humanities, including history. Study guides include detailed lesson plans and exercises that draw on materials from different sites.

Intercultural E-Mail Classroom Connections
http://iecc.org/
Free service designed to help teachers and classes link with partners in other countries and cultures for e-mail classroom, pen pal, and project exchanges.

University of Oklahoma Law Center - Chronology of U.S. Historical Documents
http://www.law.ou.edu/hist/
This site offers full text versions of historic documents ranging from the Magna Carta to the German surrender of WWII to the most current State of the Union Address.

The History Channel
http://www.historychannel.com/
This site provides many resources, including audio versions of several great historical speeches, online simulations for students, and a "This Day in History" database.

Census Bureau Data Maps
http://quickfacts.census.gov/qfd/index.html
With its links to state and county maps, this site provides a fertile area for lesson plans. Students enjoy perusing census data and seeing frequencies of various characteristics such as last names.

Current Events CNN Interactive
http://www.cnn.com/

A wealth of current events, news, and features, this site is updated frequently, giving students and teachers up-to-date information on worldwide events.

National Weather Service

http://www.noaa.gov/

Lets students have the most up-to-date information on worldwide weather events as well as gives them links to local weather forecasting sites.

The White House

http://www.whitehouse.gov/kids/index2.html

The website for the President of the U.S. (Teachers should be sure to have their students use the "gov" suffix here. At least one other suffix (".com") yields a web site with objectionable content.)

List of Internet Field Trips

http://expage.com/internetfieldtrips

Other Curricula Areas

Existing technology applications support all areas of curricula, including modern languages, business, vocational education, fine arts, and special education. Today, the momentum behind putting technology into classrooms requires teachers to consider all aspects of their curriculum to identify places where technology can benefit students by enhancing their learning experiences.

Technology in Modern Languages Instruction

Requisites for improved instructional effectiveness in all disciplines have become more stringent as the result of increased teacher accountability and the move toward performance assessment. National standards such as the *Standards for Foreign Language Learning in the 21st Century* (National Standards in Foreign Language Education Project, 1999) and the *National Educational Technology Standards* (ISTE, 2000) are shaping current foreign language instruction. Curricular integration of technology as a means to address these standards is increasing in popularity, as educators become more willing to serve as facilitators and learn from their students, many of whom are more computer proficient than they. Many foreign language teachers in multimedia-enhanced, learner-centered classrooms are beginning to acknowledge this newest role (as learner) and seem willing to accept it openly. The national standards for foreign language, which recommend expected student outcomes in the areas of communication, cultures, connections, comparisons, and communities, explain the importance of technological integration in foreign language courses. Access to a variety of technologies ranging from computer-assisted instruction to interactive video, CD-ROM, the Internet, electronic mail, and the World Wide Web, will help students strengthen linguistic skills, establish interactions with peers, and learn about contemporary culture and everyday life in the target country.

In a project initiated by the International Society for Technology in Education (ISTE), the Standards for Foreign Language Learning in the 21st Century were cross-referenced with the National Educational Technology Standards (NETS-T). The NETS-T Project sought

to develop national standards for PreK-12 curricular integration of technology, and delineate means of technological support, student assessment, and evaluation of technology use by school personnel, inclusive of students. The correlation of the NETS-T with the national foreign language standards is reflected in the following information retrieved from the ISTE Web site.

Standards for Foreign Language Learning

Communication: Communicate in languages other than English
Standard 1.1: Students engage in conversations, provide and obtain information, express feelings and emotions, and exchange opinions.
Standard 1.2: Students understand and interpret written and spoken language on a variety of topics.
Standard 1.3: Students present information, concepts, and ideas to an audience of listeners or readers on a variety of topics.

Cultures: Gain knowledge and understanding of other cultures
Standard 2.1: Students demonstrate an understanding of the relationship between the practices and perspectives of the culture studied.
Standard 2.2: Students demonstrate an understanding of the relationship between the products and perspectives of the culture studied.
Connections: Connect with other disciplines and acquire information
Standard 3.1: Students reinforce and further their knowledge of other disciplines through the foreign language.
Standard 3.2: Students acquire information and recognize the distinctive viewpoints that are only available through the foreign language and its cultures.

Comparisons: Develop insight into the nature of language and culture
Standard 4.1: Students demonstrate understanding of the nature of language through comparisons of the language studied and their own.
Standard 4.2: Students demonstrate understanding of the concept of culture through comparisons of the cultures studied and their own.
Communities: Participate in multilingual communities at home and around the world
Standard 5.1: Students use the language both within and beyond the school setting.
Standard 5.2: Students show evidence of becoming lifelong learners by using the language for personal enjoyment and enrichment.

ISTE suggests that attainment of the above student competencies can be facilitated by curricular integration of technology. Technology can indeed add enormous value to our humanistic enterprise. Multimedia materials, for instance, are an intrinsically appropriate tool for language learning. They provide the user with a rich context for learning, a high degree of immersion, and the potential for varied interactions. The convergence of full-motion video, sound, still images, texts, graphics, and animation reconstructs for the learner the multidimensional nature of language—its visual, nonverbal, and cultural as well as its linguistic dimensions. Users can do a lot more than just vocabulary, grammar,

or pronunciation exercises. Interactive technologies enable the user to isolate, combine, and recombine in an unprecedented way the various elements of communication: words, speech acts, discourse, pragmatics, intonation, nonverbal signals. The traditionally hidden aspects of language, such as connotations and implicit values, are thereby made accessible.

Technology is useful not just in language learning but in the study of literature, culture, and film as well. Ten years ago, it would have been difficult to connect the words technology and culture or technology and literature or to find synergy between those fields. Interestingly enough, technology may end up being the medium that binds together the different areas of our departments, namely language, literature, culture, and film. Hypertext and hypermedia grant users access to the many dimensions of a text: linguistic, literary, cultural, and historical. Technology then finds itself at the intersection of language, literature, and culture.

Useful Web Sites for Modern Languages Instruction

Authentic Resources

Center for the Advancement of Language Learning
http://call.lingnet.org/

> The Center for the Advancement of Language Learning offers links by language to sites containing authentic documents for integrating into your course.

Human Languages Page
http://www.june29.com/HLP/

> This site is loaded with links to literature, language materials, publications, organizations and much more.

Language Links
http://polyglot.lss.wisc.edu/lss/lang/langlink.html

> The Language Links web site is organized by over 14 different language groups including African Languages, French, German, Spanish, Asian Languages, Italian, Portuguese, and many more.

Web-Based Activities-Instructional Sites Created by Teachers

General Resources for Multiple Languages

Teaching with the Web
http://polyglot.lss.wisc.edu/lss/lang/teach.html

This site developed by Lauren Rosen, features resources and exercises for using the Internet to teach commonly and less-commonly taught languages. Teaching with the Web is an extremely rich resource for foreign language educators of all levels.

NFLRC Web Activities
http://polyglot.lss.wisc.edu/lss/lang/nflrc.html

This site offers innovative exercises for foreign language teaching and learning.

Mini Lesson Plans for Foreign Language Web Sites
http://138.87.135.33/class/projects.htm

Developed by Illinois State University, this site features lesson plans and links to foreign language web sites.

Internet Activities for French, German, & Spanish
http://members.aol.com/maestro12/web/wadir.html

This site offers Internet-based lesson plans that were created by teachers. These sites were designed as worksheets for the students to complete while accessing the corresponding reference web sites online.

Using the WWW in Language Teaching
http://polyglot.cal.msu.edu/clear/internet/teachweb.html

This site features links and resources for using the WWW in the foreign language classroom.

Internet Conversations
http://LanguageCenter.cla.umn.edu/lc/surfing/conversation

This web site features information about chats, moos, and other methods of Internet conversation.

Learning English with the Web
http://www.lang.uiuc.edu/r-li5/esl/

This home page is a starting point for ESL learners who want to learn English using the World Wide Web. Many people have created ESL learning materials for the Web. This home page links you to those ESL sites and other interesting places. The variety of materials will allow you to choose something appropriate for your level.

Internet for ESL teachers
http://edvista.com/claire/internet-esl.html

This site offers an extensive amount of information for ESL teachers including links to: ESL organizations, student projects, and an introduction to the Internet, search engines, online courses, and much more.

French

Voyageons en Côte d'Ivoire
http://cda.mrs.umn.edu/~roschem/lessons_html/Cote_Ivoire.html

This site offers information and resources for learning about the history, culture, art, and geography of the Ivory Coast.

La Vie Culturelle
http://www.cortland.edu/www/flteach/civ/cultur/cultur.htm

This interactive site quizzes users on French culture, cinema, music, television, and press.

Listen and Respond
http://anarch.ie.toronto.edu/people/patrick/site/html/SimpliciteQCM.html

This web site offers an online exercise intended to test oral comprehension. Users listen to a passage and then respond to a series of questions.

Standards for Foreign Language Learning: activities for French
http://www.uga.edu/~romlan/standards/standard.htm

This site provides links to over 35 web sites that can be used in the French language classroom. You can visit the home page of Le Monde, follow the news in France and Quebec, or go to the Tintin home page.

TOOLS FOR DEVELOPING INTERNET MATERIALS

Guides to the Internet

Internet Options in the Classroom
http://members.aol.com/maestro12/web/class.html

This site offers ideas and resources for using the Internet in the one computer classroom. This is a good place to start for basic information.

Reading Strategies for Web Activities
http://members.aol.com/maestro12/web/strategies.html

This site will illustrate how teachers can use reading strategies to help students read authentic documents on the web. Reading strategies will help students be more successful in decoding a challenging passage at every level. The steps outlined on this site can be built into any reading assignment.

A Language Professional's Guide to the World Wide Web
http://agoralang.com/calico/webarticle.html

This site defines basic terms, identifies interesting places to go on the WWW, and offers insight into how to navigate the Internet. This is a great place to begin.

Advantages to Telecomputing: Reasons to Use the Internet in Your Classroom
http://www.gsn.org/teach/articles/advan.html

This article discusses some basic reasons why educators should use the Internet in their classrooms. This site outlines positive aspects for both teachers and students.

Language Learning Via the Web
http://moliere.byu.edu/calico/calico96.html

Language Learning via the Web offers general information about the current status of the Internet, and what the emergence of the Internet will mean for education in the future. This site also helps to define basic technical vocabulary.

Basic Internet Tools for Foreign Language Educators
http://www.cortland.edu/www/flteach/articles/vircontl.html

The information provided on this site defines briefly some of the various tools Internet users can employ to make their way around the Internet, extract useful information, and in general turn it into a useful and user-friendly commodity.

Finding Information on the Internet: A Tutorial
http://lib.berkeley.edu/TeachingLib/Guides/Internet/FindInfo.html

Without investing the time to learn to effectively and efficiently find information on the Internet using complex search strategies, one can find some documents on almost any topic using simple keyword searching techniques or browsing subject categories. But are they the best or all the Web has to offer on your topic? Are they even about your topic? Did your search retrieve more documents than you can reasonably read?

The Net: User Guidelines and Netiquette
http://www.fau.edu/rinaldi/net/

This site provides information about how to use the Internet responsibly.

University of Minnesota Language Center Reading List for FL Technology Professionals
http://LanguageCenter.cla.umn.edu/CARLA/fltechclass/syllabus/readings.html

As the title suggests, this site features a list of books and journal articles related to using technology in foreign language teaching.

Creating Your Own Web Pages

Making Web Pages
http://polyglot.cal.msu.edu/clear/internet/makewebpage.html

Making Web Pages offers a great collection of resources for individuals interested in building their own web sites.

HTML Crash Course for Educators
http://edweb.gsn.org/htmlintro.html

This site provides a clear and easy to follow tutorial that is specifically geared to educators. A great source for basic information about web site authoring.

Language Interactive: A Trail Guide to Creating Dynamic Web Pages
http://www.fln.vcu.edu/cgi/interact.html

This guide is intended for language teachers with an interest in the application of technology to language learning. The information and methods described are applicable in K-12 or higher education. The specific focus is on the World Wide Web, but there will be some incidental discussion of other computer-based applications.

HTML Help Page
http://LanguageCenter.cla.umn.edu/lc/surfing/htmlhelp

This site offers tutorials, button and graphic archives, help programs, and other useful tools for working in HTML.

Knowledge Design Instructional Resources
http://www.auburn.edu/%7Emitrege/knowledge/index.html

This web site features tutorials on how to create interactive exercises. Offers many example exercises as well.

Evaluating Multimedia, Web Pages, and Activities

Evaluation of Web Lessons
http://members.aol.com/maestro12/web/evalform.html

This site offers a template that can be used to evaluate web lessons and exercises.

Finding Software a list of links for language software reviews, companies, and catalogs.
http://LanguageCenter.cla.umn.edu/lc/surfing/software.html

This site offers a lot of information about how to evaluate and review foreign language software programs. This site includes helpful questions to consider before buying software and links to software reviews and databases.

Taxonomy of Multimedia Features
http://nts.lll.hawaii.edu/flmedia/evaluation/general/gencriteria.htm

Developed by the National Foreign Language Resource Center at the University of Hawaii, this site offers guidelines for evaluating foreign language multimedia programs.

Software Evaluation Guide
http://www.owlnet.rice.edu/~ling417/guide.html

Provides information and general guidelines for evaluating software programs.

RESOURCES FOR LANGUAGE PROFESSIONALS

Publications

Language Learning and Technology
http://polyglot.cal.msu.edu/llt/

Language Learning and Technology is a journal for second and foreign language educators.

The Australian Journal of Computers and Language Education
http://www.cltr.uq.edu.au/oncall

This journal publishes articles covering a wide range of topics that involve technology, especially computers, and language education with relevance to teachers and researchers in all educational sectors.

Networking with Foreign Language Colleagues: Professional Development on the Internet
http://www.cortland.edu/www/flteach/articles/networking.html

This site features the text of an article discussing the use of the Internet to interact with foreign language professionals.

Choosing and Using Materials for a 'Net' Gain in FL Learning and Instruction
http://www.cortland.edu/www/flteach/articles/nysaflt96.html

This article explores the rationale for choosing materials from the WWW, gives a brief introductory explanation of the technology involved in accessing the resources of the Internet, and discusses how teachers might integrate these resources into the FL curriculum.

Surf's Up! Web Site Workbook Series
http://www.geocities.com/Athens/Forum/4726/wkbk.html

You can look at the answers to the Surf's Up! workbook activities to get ideas for activities. This site offers resources for French, Spanish, and German.

The World Wide Web: Taking on the Pedagogical Challenge
http://horizon.unc.edu/projects/monograph/CD

Technology Tools for Today's Campuses: Focus on Instructional Technology offers resources for using technology in instruction.

Language Learning and the Internet
http://www.lll.hawaii.edu/web/faculty/markw/links.html

This site offers an extensive collection of links related to foreign language and technology resources.

Planning a Language Resource Center
http://edvista.com/claire/labplan.html

A great step by step approach to planning and developing a resource center.

Computer Classroom and Laboratory Design: Bibliography
http://www.unc.edu/cit/guides/irg-03.html

A nice list of resources for those who are planning to put in a computer lab.

Organizations

Agora Language Marketplace
http://www.agoralang.com:2410/

This site features an online index of companies offering language-related publications, products and services

International Association for Language Learning Technology (IALL)
http://polyglot.lss.wisc.edu/IALL

Established in 1965, IALL is a professional organization dedicated to promoting effective uses of media centers for language teaching, learning, and research.

American Council on the Teaching of Foreign Languages (ACTFL)
http://www.actfl.org/

ACTFL is the only national organization dedicated to the improvement and expansion of the teaching and learning of all languages at all levels of instruction. ACTFL is an individual membership organization of more than 7,000 foreign language educators and administrators from elementary through graduate education, as well as government and industry.

Computer Assisted Language Instruction Consortium (CALICO)
http://calico.org/index.html

CALICO, the Computer Assisted Language Instruction Consortium, is a professional organization that serves a membership involved in both education and high technology. CALICO has an emphasis on modern language teaching and learning, but reaches out to all areas that employ the languages of the world to instruct and to learn.

Foreign Language Teaching Forum (FLTEACH)
http://www.cortland.edu/www_root/flteach/flteach.html

The Foreign Language Teaching Forum focuses on foreign language teaching methods including school/college articulation, training of student teachers, classroom activities, curriculum, and syllabus design. Students in teacher training programs, teachers both new and experienced, administrators, and other professionals interested in any aspect of foreign language teaching are invited to participate in our discussions.

Technology in Fine Arts (Art, Dance, Music) Instruction

It is difficult to describe the profound effect that technology has had on the Fine Arts (Art, Dance and Music). No one in the arts can really claim singular credit for any creative outcome. Western culture stands on the shoulders of two thousand years of evolution in the arts. However, digital technology has revolutionized the arts in ways and at a pace never before seen in history. Entire art forms have been inalterably changed and new art forms are appearing at a dizzying rate. We can no longer be content to accept computer technology in a peripheral endeavor. We must begin to focus on it as a central issue in what we do. It needn't replace 'traditional' art forms and disciplines, nor relegate them to obscurity, but when appropriate this new medium must be studied, accepted, and integrated into our curriculum and artistic mindset.

As we enter the next century, we leave behind practices of specialization and move towards integration. Previously assumed divisions of arts and sciences are now being

understood as complementary forces being held in dynamic balance. In an age where information travels almost at the speed of thought, technology has become the fulcrum on which the integration of our knowledge and imagination find their balance.

With technology, schools must provide leadership in offering students an opportunity to gain the knowledge, both technical and theoretical to function in a world where boundaries between disciplines are rapidly blurring. It is, therefore, incumbent on the schools to lead the way in defining arts technology in Fine Arts Education. It is imperative that we model integration; holism and collaboration by offering resources that support and encourage such practices.

Given that the Fine Arts contain expression such as sculpting, painting, drawing, dance, theater, music, etc, there are countless opportunities for advancement within the curriculum. Having such a broad range of options enables different types of technological support to be introduced to both teachers and students.

- Theater students use technology constantly, whether it's accessing the computer catalog to find plays for study or on the Internet for reviews or to study about a particular playwright.
- Technology is a central part of technical theater as well. The lights used to illuminate the stage are computer driven and must be programmed correctly.
- Visual arts students study laser discs, which are used in teaching and learning art history.
- They also use the CD-ROM drives in computers to study color mixing, art forms, current trends in visual arts and art history.
- Many schools have a computer graphics lab at their disposal, which is used to teach animation and the creation of art.
- Images downloaded from the Internet are modified and adapted to create original works of art.
- The visual arts students are required to become handy with 35mm copy stand photography as they document everything they do for their portfolios.
- Working with computer animation and photography are important skills for visual artists in the field today.
- Music programs also include advancements, for example, students learn about acoustics, lighting, seating arrangements, ergonomics, and personal programming in the context of how the built environment affects musical performance. The technology includes building models of spaces to incorporate specific acoustical properties and studying types and colors of lights.

Those are just a few ways in which all Fine Arts categories use technology to improve their class content. The world will keep advancing; it’s up to the educators to take advantage of such learning enhancers.

Useful Web Sites for Fine Arts (Art, Dance, Music) Instruction

FINE ARTISTS:

CALIFORNIA

Wostrel, Nancy	www.wwrld.net/wostrelart.html

MARYLAND:

Kolb, Joyce Diana	www.art-kolb.com

MASSACHUSETTS:

Mintz, Margie	www.margiemintz.com

MICHIGAN:

Morgan, Lynn	www.lynnmorganart.com

TEXAS:

Perri Sparks	www.netonline.com/cordair

Viola, Bill	www.cnca.gob.mx/viola/index.html
Wojciech (Voytek) Nowakowski Fine Paintings	www.geocities.com/Paris/Metro/2097

PHOTOGRAPHERS:

Abraham Menashe	www.humanistic-photography.com
Ralph Gibson	www.ralphgibson.com
Simmons, Dana	www.danasimmons.com

GALLERIES:

Ada Web	www.adaweb.com
Agora Gallery	www.Agora-Gallery.com
Art Gallery Worldwide	www.gallery-worldwide.com

FILM:

Pacific Film Archive	www.uampfa.berkeley.edu

ASSOCIATIONS & ORGS:

FINE ART:

ArtNow Gallery Guild	www.gallery-guide.com/content/current
Arts Wire	www.artswire.org
Dia Center for the Arts	www.diacenter.org>
Midwest Watercolor Society	www.artscape.com/orgs/mws/index2.html
Yale Center for British Art	www.yale.edu/ycba

MAGAZINES:

Art Forum Online	www.artforum.com
Journal of Contemporary Art	www.jca-online.com
TRANS	www.echonyc.com/~TRANS

MUSEUMS:

California Museum of Photography	www.cmp.ucr.edu/
Children's Museum of Manhattan	www.cmom.org
Cleveland Museum of Art	www.clemusart.com/
Cooper-Hewitt, National Design Museum	www.si.edu/ndm
J. Paul Getty Museum	www.getty.edu
Krannert Museum of Art	www.art.uiuc.edu/kam
Los Angeles County Museum of Art	www.lacma.org
The Mattress Factory, Pittsburg	www.mattress.org
Metropolitan Museum of Art, New York	www.metmuseum.org/
Michael C. Carlos Museum, Emory University, Atlanta	www.cc.emory.edu/ www.CARLOS/carlos.html
Minneapolis Institute of Arts	www.artsMIA.org/
Museum Informatics Project	www.mip.berkeley.edu/
Museum of Modern Art, New York	www.moma.org
National Gallery of Art, Washington, DC	www.nga.gov>
National Museum of American Art, Washington D.C	www.nmaa.si.edu
Palmer Museum @ Penn State	www.cac.psu.edu/~mtd120/ palmer/lobby.html
Rooseum - Center for Contemporary Art	www.rooseum.se
San Francisco Museum of Modern Art	www.sfmoma.org/
The Andy Warhol Museum, Pittsburgh	www.warhol.org
The Fine Arts Museum of San Francisco	www.famsf.org/
The Frederick R. Weisman Art Museum	hudson.acad.umn.edu/
The Smithsonian, Washington D.C	www.si.edu/
Walker Art Center	www.walkerart.org
ZKM: Center for Art and Media	http://www.zkm.de>

Technology in Special Education Instruction

For many people, the term technology conjures up visions of computers and other high-tech devices, both expensive and complicated. Often, such perspectives focus solely on hardware and equipment and overlook the procedures that teachers use in the classroom. You need to view technology as a tool that can be used to solve problems in the education of students. Think of solutions as a continuum-ranging from "high-tech" to "no-tech":

- **High-tech** solutions involve the use of sophisticated devices, such as computers and interactive multimedia systems.
- **Medium-tech** solutions use less complicated electronic or mechanical devices, such as videocassette players and wheelchairs.
- **Low-tech** solutions are less sophisticated aids, such as adapted spoon handles, Velcro fasteners, or raised desks that can accommodate a wheelchair.
- **No-tech** solutions require no devices or equipment. These might involve the use of systematic Teaching procedures or the services of related services personnel such as physical or occupational therapists.

In making decisions about the type of technology tools or supports a particular student might require, a good approach is to start with no-tech or low-tech solutions and then work up the continuum as needed.

During the past 25 years, there has been a dramatic evolution of technology in education: microcomputer technology, research on instructional procedures, and many new assistive devices and equipment. In addition to technology productivity tools such as word processors, researchers and educators today recognize four types of technology: the technology of Teaching, medical technology, instructional technology, and assistive technology:

- **The technology of Teaching** includes systematically designed procedures and strategies that are applied in precise ways. They typically include well-defined objectives; precise instructional procedures based on the tasks students are required to learn; small, sequenced units of instruction; a high degree of teacher activity; high levels of student involvement; liberal use of reinforcement; and careful monitoring of student performance. These technologies include direct instruction, applied behavior analysis, competency-based instruction, learning strategies, and response prompting
- **Medical technology** continues to amaze us, with almost miraculous surgical procedures and new devices that keep people alive. For example, new technologies provide respiratory assistance (oxygen supplementation, mechanical ventilation, positive airway pressure devices) and surveillance of vital signs (cardiorespiratory monitors, pulse oximeters).
- **Instructional technology** includes various types of hardware and software, combined with innovative Teaching methods, to accommodate learners' needs in the classroom. Such technology may include videotapes, computer-assisted instruction, or complex hypermedia programs in which computers are used to control the display of audio and visual images stored on videodisc. The use of telecommunication systems, particularly the Internet and its World Wide Web, has great promise for use in classrooms and for distance education.
- **Assistive technology** includes various services and devices designed to help people with disabilities function within the environment. Examples include communication aids, alternative computer keyboards, adaptive switches, and services such as those that might be provided by speech/language pathologists. To locate such services, educators can use computer databases and the Adaptive Device Locator System.

Creative and knowledgeable educators--or teams of educators and other professionals--often use these technologies in combination. For example, students who are unable to use their hands to operate a computer keyboard may use a voice-operated computer (assistive technology) that provides instruction from a software program that was designed to deliver spelling instruction (instructional technology) using a constant time delay response prompt fading instructional procedure (technology of Teaching).

Useful Web Sites for Special Education Instruction

Assistive Technology Resources

- Evan Kemp Associates - Disability Resources
  - http://www.disability.com
- National Center to Improve Practices
  - http://www2.edc.org/NCIP/
- AZtech, A to Z Assistive Technology
  - http://www.wnyilp.org/aztech/
- Cindy Hamilton's site, Sped Tech Assistant, with special reference to assistive technology
  - http://www.spedassist.org
- University of Delaware: Applied Science and Engineering Laboratories
  - http://www.asel.udel.edu/
- Northwestern University Rehab Engineering, Prosthetics and Orthotics
  - http://www.repoc.northwestern.edu/
- The fine resources available from **Washington Assistive Technology Alliance** include information about resources, funding, policy and many other topics
  - http://wata.org/
- Assistive Technology Consulting, Fort Collins, CO
  - http://www.pitt.edu/~mbuning/
- Sacramento Center for Assistive Technology
  - http://home.surewest.net/tcat/
- LAB Resources
  - http://my.execpc.com/~labres/
- Assistive Technology Resource Alliance - ATRA
- Don Johnson Incorporated
  - http://www.donjohnston.com/
- AbilityHub, Dan Gilman's entry into the world of assistive technology for computers
  - http://www.abilityhub.com/

Schools

- Saint Marie Primary School Sekolah Dasar Santa Maria
  - http://www.sdsmsy.com/
- Dyslexia Certificate Training Course for Teachers and Parents
  - http://www.dyslexia-teacher.com/certificate.html
- Dyslexia Teaching Today
  - http://www.dyslexia-teacher.co.uk/
- spedonline
  - http://www.spedonline.com/

- Scarsdale Special Education
  - http://www.scarsdaleschools.k12.ny.us/district/speced.html
- The Carroll School
  - http://www.carrollschool.org/home.html
- SALT Center at the University of Arizona
  - http://www.salt.arizona.edu/
- Grand Haven Attention Camp 2001
  - http://www.adhdcamp.com/
- Judge Rotenberg Educational Center
  - http://www.judgerc.org/
- Suicide in the School
  - http://www.baltimorepsych.com/Suicide.htm
- Rap Lyrics To Learn By !
  - http://www.wsff.com/WSFF/home.asp?vCompID=32264
- Teaching Jobs and Resources
  - http://greatteacher.net/
- Aspen Youth Services - Programs For At-Risk Youth And Their Families
  - http://www.aspenyouth.com/

Software and Hardware

- RJ Cooper -Special Education and Learning Disabled Software and Hardware Products
  - http://www.rjcooper.com/
- SENSwitcher
  - http://www.northerngrid.org/sen/intro.htm
- Play Attention
  - http://www.playattention.com/
- Adaptive & Assistive Technology Equipment, Products and Software @ RehabTool.com
  - http://www.rehabtool.com/

Web Resources

- Nova Romana - The Roman Town on the Web
  - http://www.click-site.com/
- Special Kids Resource
  - www.specialkidresource.com
- Educational Word Search Puzzles
  - http://www.free-online-word-search-puzzles.com/
- ADD Forums
  - http://www.addforums.com/forums/
- Dyslexia Online Journal
  - http://www.dyslexia-adults.com/journal.html
- Dyslexia Online Magazine

    - http://www.dyslexia-parent.com/magazine.html
- Dyslexia Testing and Assessment
    - http://www.dyslexia-test.co.uk/
- Dyslexia Adults Link
    - http://www.dyslexia-adults.com/
- Nursing Jobs and Resources
    - http://greatnurse.com/
- TRISPED, Technology, Research and Innovation in Special Education
    - http://www.trisped.org/
- CHADD of Eastern Oakland County Michigan
    - http://eocc.homestead.com/
- Emotional Growth Program For At Risk Students
    - http://www.aspenacademy.com/
- SUWS Wilderness Treatment For Struggling Adolescents
    - http://www.suws.com/
- Transitional Learning Center
    - http://tlcrehab.org/
- DrGreene.com - Caring for the Next Generation
    - http://www.drgreene.com/
- GOING TO SCHOOL (IR A LA ESCUELA)
    - http://www.richardcohenfilms.com/
- Dyslexia Parents Resource
    - http://www.dyslexia-parent.com/
- Dyslexia Teacher
    - http://www.dyslexia-teacher.com/
- Dyslexia Resting and Assessment
    - http://www.dyslexia-test.com/
- Speech-LanguagePathologist.org Jobs and Resources
    - http://www.speechpathologist.org/
- Web EDea for Educators
    - http://www.adhd1.net/
- fun informative ADHD videos for kids and adults
    - http://www.adhd1.net/
- Deaf Outlook
    - http://www.deafoutlook.com/
- ADHD online book (free)
    - http://pediatricneurology.com/adhd.htm
- National Clearinghouse for Professions in Special Education (NCPSE)
    - http://www.specialedcareers.org/
- JohnL's sped office
    - http://curry.edschool.virginia.edu/go/specialed/
- Adolescent Guidance Programs for Troubled Teens
    - http://www.nationalyouth.com/
- Gigglepotz
    - http://www.gigglepotz.com/
- National Center for Learning Disabilities

- http://www.ld.org/
- AbilityHub
  - http://www.abilityhub.com/
- Attention Deficit Disorder: Issues and Perspectives
  - http://www.ncpamd.com/adhd.htm
- Internet Special Education Resources
  - http://www.iser.com/
- A.D.D. Consults - Psychoeducation for ADD and ADHD
  - http://www.addconsults.com/
- Assistive Technology, Opening Doors to the World . . .
  - http://www.opendoorworld.com/rehabtool.htm
- Assistive Technology Online Resource Library
  - http://www.opendoorworld.com/rehabtool.htm
- Pfeiffer Treatment Center
  - http://www.hriptc.org/
- Speech-Language Pathologist Resource
  - http://www.speech-languagepathologist.org/
- Basic Educational Materials, Publishers
  - http://www.angelfire.com/biz/bempub/

Miscellaneous

- 23rd Annual Neurorehabiltiation Conference on Traumatic Brain Injury and Stroke
  - http://www.braintreehospital.org/
- EasyStand Products by Altimate
  - http://www.easystand.com/
- Teaching Jobs and Resources!
  - http://yourteacher.net/
- The Swopper - a revolutionary new concept in sitting.
  - http://www.3tgmbh.de/
- BrainSkills
  - http://www.brainskills.com/
- Grand Haven Attention Camp
  - http://www.attentioncamp.com/
- School Finders
  - http://www.schoolfinders.net/
- Special Music by Special People
  - http://www.specialmusic.org/
- Navigating Windows by Keyboarding (short cut key
  - http://www.opendoorworld.com/key-index.htm
- Vision Based Learning Problems
  - http://www.visionhelp.com/
- http://www.wrightslaw.com/
  This website provides teachers and parents with up-to-date, accurate information about special education law and advocacy for children with disabilities. The

website provides links to other important pages; a link to Advocacy, Special Education and Education, Legal Issues, Free Services, Seminars, Books by Pete & Pam (the authors), and Messages to New Parents. This website is rated # 1 in education law, special education law, and special education advocacy.

- http://www.specialednews.com/
  This website is an excellent site for teachers. It provides links to current events in the special education field. This cite is organized for educators, teachers, and students. The design is conducive for any person, whether skilled with the Internet or not to use this website. Anyone interested can subscribe to an online newsletter delivered free via e-mail.
- http://specialed.freeyellow.com/
  This site is one of the official websites for special education. It provides links to the Best Special Education sites on the net. The information that is presented is organized, accurate, and written by distinguished people in the education field. This site has links to each disability and provides links to other sites useful in relation to that disability. At the end of the first page, an email addressed is provided for questions and feedback.
- http://www.iser.com/index.shtml
  This website is a nationwide directory of special education professionals providing learning disabilities and ADD assessments, treatment, and advocacy, and other special needs. It provides a step-by-step aid in searching the site. I would recommend this site for parents and children especially because it states on the homepage that it is kid friendly. The design makes the site easy to follow and links are provided to other pages accessible on the World Wide Web.
- http://specialed.about.com/
  This site provides important information about Special Education resources, inclusion strategies, classroom and parental support. The author of this site is Sue Watson, who provides the reader with a personal guide to one of hundreds of sites on www.about.com. This site is organized with current events on the homepage. It provides links to key subjects about special education and school. On the bottom of the homepage are links to "Explore More." There is also an online newsletter available free of charge.
- http://www.nyise.org/
  The New York Institute for Special Education (NYISE) is a private, nonprofit, nonsectarian educational facility which provides quality programming for children who are blind or visually disabled, emotionally and learning disabled and preschoolers who are developmentally delayed. This website is clearly outlined and even highlighted certain words to other links (for example, the word quality programs is highlighted and if clicked on brings you to the program page). It is updated weekly and user friendly. The website even provides information about its sponsors on their homepage.
- http://www.reedmartin.com/
  This particular website discusses Educational resource where parents, advocates, attorneys and school personnel come for accurate up-to-date information and strategies to secure rights of children with disabilities. Besides links to other important websites, this site offers free chat rooms and message boards.

However, in my opinion, the only negative aspect to this site is that there is a lot of information on one page. The design is very complicated and I often felt like I did not know where to look first.

- http://www.ed.gov/about/offices/list/osers/index.html
  This is the official site of the Office of Special Education and Rehabilitative Services. The Office of Special Education and Rehabilitative Services (OSERS) is committed to improving results and outcomes for people with disabilities of all ages. In supporting President Bush's No Child Left Behind agenda and the New Freedom Initiative, OSERSS provides a wide array of supports to parents and individuals, school districts and states in three main areas, special education, vocational rehabilitation and research. This website also outlines President Bush's No Child Left Behind Act. The design of this website is both organized and influential with the graphics and chosen words on their homepage.
- http://www.spedex.com/
  This website is perfect for educators, professionals, parents, consumers, students, or anyone interested in special education. "SpEdEx" provides you with useful information about special education and provides links to other sites. The design is completely user friendly and its organization allows the information to be well thought-out.
- http://www.bls.gov/oco/ocos070.htm
  This website is published by the US Department of Labor, Bureau of Labor Statistics. The site is organized in such a way that notes the significant points on their homepage. The only negative aspect of this site is that it is very wordy and I don't think that an average student, nonetheless a special education student, would be able to use effectively.

Technology in Health / Physical Education Instruction

Technology impacts health, physical education, recreation, and dance educators in the areas of research, classroom teaching, and distance education. While the overall effect is not yet fully assessable, the presence of technology in so many different aspects of the profession makes it important to more clearly recognize and appreciate its current and potential role.

The greatest value of computers may reside in the ability to provide improved support to classroom instruction, and the variety of software programs for such use continues to grow. Commercial and shareware programs are available to track grading, student athletic performance, and fitness; conduct health assessments; provide simulations of disease; and monitor research projects, among other functions. The development of individualized software is becoming more common.

Computers have integrated learning with multimedia presentations. Traditional encyclopedias and reference books have been replaced by compact discs with read-only memory (CD-ROM or CD) that contain pictures, sound, and video, as well as the standard text.

Computer-assisted instruction (CAI) provides students with an alternative to classroom settings and frees the instructor from rote processes that are better handled by the computer. There are a number of reasons for using CAI in physical education. It provides students with the "why" behind health-related fitness; it provides unlimited practice, review, and remediation; students stay actively involved; and it meets a variety of student needs. CAI, if individually developed, requires considerable time on the part of the instructor, but this is compensated for by increased learning time available in the classroom. Using CAI an instructor can develop or acquire a series of supportive and reinforcing software. For example, students in a nutrition class might participate in a CAI-based eating habits survey that provides students with information about their nutritional habits, collates data for the entire class, and provides the teacher with a report to use as a teaching tool.

Useful Web Sites for Health / Physical Education Instruction

General Sources

Centers for Disease Control and Prevention (CDC)
http://www.cdc.gov/

The CDC offers this page, from which you can learn about travelers' health, data, and statistics related to disease control and prevention, and general health information.

U.S. National Institutes of Health (NIH)
http://www.nih.gov/

Consult this site for links to extensive health information and scientific resources. Comprised of 24 separate institutes, centers, and divisions, the NIH is one of eight health agencies of the Public Health Service, which, in turn, is part of the U.S. Department of Health and Human Services.

U.S. National Library of Medicine
http://www.nlm.nih.gov/

This site permits a search of a number of databases and electronic information sources such as MEDLINE. You can learn about research projects and programs and peruse the national network of medical libraries here.

World Health Organization
http://www.who.int/en/

This home page of the World Health Organization will provide links to a wealth of statistical and analytical information about health around the world.

Chronic and Communicable Diseases

American Cancer Society
http://www.cancer.org/docroot/home/index.asp

Open this site and its various links to learn the concerns and lifestyle advice of the American Cancer Society. It provides information on tobacco and alternative therapies.

Body Health Resources Corporation
http://www.thebody.com/index.shtml

From this site it is possible to access "The Body: A Multimedia AIDS and HIV Information Resource" to learn about treatments, to exchange information in forums, to gain insight from experts, and to help and get help.

Heart Information Network
http://www.heartinfo.org/

This Web site, founded by a heart patient and a physician, offers educational information about heart disease. Sections include a Nutrition Guide, Patients' Stories, Heart Attack and Hypertension Guides, Preventive Cardiology, and much more.

Consumer health

Mental Help Net
http://mentalhelp.net/

Geared to providing information on mental disorders, this site and its many links place an emphasis on self-help. Aging, dementia and Alzheimer's disease, and topics from cancer to depression are described.

Sympatico
http://healthandfitness.sympatico.msn.ca/Home/

Directed toward the consumer, this Canadian site leads to many links related to general and reproductive health.

Drugs and Society

National Institute on Drug Abuse (NIDA)
http://www.drugabuse.gov/

Use this site index for access to NIDA publications and communications, information on drug abuse, and links to other related Web sites.

Psychopharmacology Tips
http://www.dr-bob.org/tips/

Gain access to a wide variety of information and advice related to psychopharmacology on this Web site, with its links to specific drug sites and to specific disorders.

Drug Dependence Research Center (DDRC)
http://www.globalchange.com/druglink.htm

The DDRC studies the pharmacology, physiology, and psychology of drugs in humans. This site provides information on the DDRC's profile of medical marijuana users, its research into the cardiac effects of cocaine, and other topics.

Eating Disorders

Eating Disorders Recovery Online
http://www.edrecovery.com/jive3/index.jspa

This site has information on eating disorders, development and consequences of eating disorders, body image, and eating patterns.

Eating Disorders Theme Page
http://www.cln.org/themes/eating.html

This extensive collection of links leads to information on compulsive eating, bulimia, anorexia, and other disorders.

Health Behavior and Decision Making

Columbia University's Go Ask Alice!
http://www.goaskalice.columbia.edu/index.html

On this interactive site, discussion and insight into a number of personal issues of particular interest to college-age people as well as to those younger and older are provided. Many questions about physical and emotional health and well-being are answered.

National Institute on Aging (NIA)
http://www.nia.nih.gov/

The NIA, one of the institutes of the U.S. National Institutes of Health, presents this home page that leads to a variety of resources on the health and lifestyle issues of the aging.

The Society of Behavioral Medicine
http://www.sbm.org/

Listings of major, general health institutes and organizations as well as discipline-specific links and resources in medicine, psychology, and public health can be found on this Web site.

Health Care in the United States

Agency for Health Care Policy and Research (AHCPR)
http://www.ahcpr.gov/

The aim of the AHCPR is to improve health care quality through education and research. Information on consumer health, U.S. health care policy and trends, clinical research, and managed care is available.

American Medical Association (AMA)

http://www.ama-assn.org/

The AMA offers this site for consumers and health practitioners to find up-to-date medical information, peer-review resources, and discussions of such topics as HIV/AIDS and women's health.

Human Sexuality

Men's Health

http://www.menshealth.com/cda/home/0,,s1-0-0-0-0,00.html

This resource guide from *Men's Health* presents many links from AIDS/STDs, to back pain, to impotence and infertility, to vasectomy, plus discussions of family issues.

Planned Parenthood

http://www.plannedparenthood.org/pp2/portal/

Planned Parenthood's home page provides links to information on contraceptives (including outercourse and abstinence) and to discussions of other topics related to sexual health.

University of Maryland/Women's Studies

http://www.mith2.umd.edu/WomensStudies/

This site provides a wealth of resources related to women's physical and emotional well-being. Topics include data on body image, comfort with sexuality, relationships, and others.

Nutrition

Tufts University's Nutrition Navigator

http://www.navigator.tufts.edu/

The *Tufts University Nutrition Navigator* is the first online rating and review guide for those seeking nutrition information on the Web. It is designed to help sort out the useful, accurate, and trustworthy information from the large volume of information on the Web.

University of Pennsylvania School of Medicine Nutrition Education and Prevention Program

http://www.med.upenn.edu/nutrimed/

The aim of the Nutrition Education and Prevention Program is to engage medical students in active learning about nutrition and medicine through interdisciplinary study. This home page provides links to many related Web sites.

U.S. Department of Agriculture (USDA)/Food and Nutrition Information Center (FNIC)

http://www.nal.usda.gov/fnic/

Use this site to find nutrition information provided by various USDA agencies, to find links to food and nutrition resources on the Internet, and to access FNIC publications and databases.

Vegetarian Pages

http://www.veg.org/

The Vegetarian Pages are intended to be an independent, definitive Internet guide for vegetarians, vegans, and others.

Vegetarian Resource Group (VRG)

http://www.vrg.org/

This nonprofit organization is dedicated to educating the public on vegetarianism and issues of health, nutrition, ecology, ethics, and world hunger. In addition to selling the *Vegetarian Journal,* VRG produces cookbooks.

Obesity and Weight Control

Shape Up America!

http://www.shapeup.org/

At the Shape Up America! Web site you will find the latest information about safe weight management, healthy eating, and physical fitness.

U.S. Department of Health and Human Services

http://www.os.dhhs.gov/

This site has extensive links to information on such topics as the health benefits of exercise, weight control, and prudent lifestyle choices.

Stress and Mental Health

Dr. Ivan's Depression Central

http://www.psycom.net/depression.central.html

This extensive site describes itself as the "Internet's central clearinghouse for information on all types of depressive disorders and on the most effective treatments." Students of mental health frequently turn to this site and its links.

National Mental Health Association (NMHA)

http://www.nmha.org/

The NMHA is a citizen volunteer advocacy organization that works to improve the mental health of individuals. The site provides access to guidelines that individuals can use to reduce stress and improve their lives in small yet tangible ways.

University of Sheffield Medical School/Center for Psychotherapeutic Studies

http://www.shef.ac.uk/~psysc/psychotherapy/

Access to *The Online Dictionary of Mental Health* may be gained here. "A global information resource and research tool" covering all of the disciplines contributing to an understanding of mental health is provided.

Aging, Dying, and Death

Administration on Aging

http://www.aoa.dhhs.gov/

This site, housed on the Department of Health and Human Services Web site, provides information for older persons and their families. There is also information for educators and students regarding the elderly.

Adult Development and Aging: Division 20 of the American Psychological Association

http://apadiv20.phhp.ufl.edu/

This group is dedicated to studying the psychology of adult development and aging.

AARP
http://www.aarp.org/

The AARP is the nation's leading organization for people age 50 and older. AARP serves their needs through information, education, advocacy, and community service.

The Gerontological Society of America
http://www.geron.org/

The Gerontological Society of America promotes the scientific study of aging, and it fosters growth and diffusion of knowledge relating to problems of aging and of the sciences contributing to their understanding.

Hospice Foundation of America
http://www.hospicefoundation.org/

Everything you might need to know about hospice care along with specific information on the foundation is available at this Web site.

History: Human Performance

Ancient Greek Olympics
http://www.perseus.tufts.edu/Olympics/

Information about the early Olympic games can be found at this site, which includes Influences, Traditions, The Events, and picture sites.

International Society for the History of Physical Education and Sport (ISHPES)
http://www.umist.ac.uk/sport/ishpes2.htm

ISHPES is the umbrella organization for sports historians all over the world, and, as such, it provides many links to global sports history.

North American Society for Sport History (NASSH)
http://www.nassh.org/

NASSH Online is the official Web site of the North American Society for Sport History, and it is available in both a flash and HTML version.

Scholarly Sports Sites
http://www.ucalgary.ca/library/ssportsite/

This site is an excellent starting point for online research. It contains an Index to Sport Subjects as well as a keyword search engine.

SPORTDiscus
http://www.sirc.ca/products/sportdiscus.cfm

From this site you can link directly to sites that contain articles. Containing over a half million references, SPORTDiscus can be searched by using subject-related key words.

Sociology

Center for the Study of Sport in Society (CSSS)
http://www.sportinsociety.org/

The CSSS is the most active organization in the world in promoting socially responsible changes in and through sport. Programs include Urban Youth Sports, Project Teamwork, and Mentors in Violence Prevention Program.

Empowering Women in Sports
http://www.feminist.org/research/sports2.html

Issues that are most important to women in the pursuit of sport are highlighted here. The site includes information on the effects of Title IX on the sports world.

North American Society for the Sociology of Sport (NASSS)
http://www.uwm.edu/~aycock/nasss/nasss.html

The official site for NASSS, this site also includes graduate programs in the Social Science of Sport and Leisure; the Laboratory for Leisure, Tourism, and Sport; and the department of Kinesiology, all at the University of Connecticut.

Sociology of Sport Online (SOSOL)
http://physed.otago.ac.nz/sosol/home.htm

SOSOL is an international electronic journal based in England that publishes articles by authors from around the world.

Psychology

Guide to Choosing a Sport Psychology Professional
http://www.psyc.unt.edu/apadiv47/choosing.htm

This sport psychology guide explains what sport psychology is, why people seek sport psychology professionals, what sport psychologists do, and how to locate one.

Journal of Sport and Exercise Psychology (JSEP)
http://www.humankinetics.com/JSEP/journalAbout.cfm

JSEP, an official publication of the North American Society for the Psychology of Sport and Physical Activity, publishes research articles by leading world scholars that explore the interactions between psychology and exercise and sport performance. Another human kinetics journal of interest, *The Sport Psychologist,* can be found at the Human Kinetics Web site.

Mind Tools: Sports Psychology
http://www.mindtools.com/page11.html

This site offers an introduction to the field, as well as sections on goal setting for motivation and self-confidence, imagery and simulation, focus and flow, tools for sports psychology, and getting into sports psychology.

Psychwatch: Sport Psychology Resources
http://www.psychwatch.com/sport_psychology.htm

Resources that include organizations and other sites to visit, sport psychology journals, and a for-fee online course are provided at this stie.

Pedagogy

Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD)
http://www.aahperd.org/

AAHPERD is the largest organization of professionals supporting and assisting those involved in physical education, leisure, fitness, dance, health promotion, and education, as well as all specialties related to achieving a healthy lifestyle.

National Association for Physical Education in Higher Education (NAPEHE)

NAPEHE is an organization for professionals in higher education who have a variety of teaching, research, coaching, and management responsibilities in physical education.

Exercise Physiology

Exercise and Disease Prevention
http://www.napehe.org/

In this article, reprinted in its entirety, Kate Lovett introduces the topic, then discusses exercise, including frequency, duration, and intensity in relation to specific disease entities. References are included.

Increasing Physical Activity Levels in Older Adults
http://socrates.berkeley.edu/~aging/HPsection4.html

Anita Stewart presents this section of a 2-day conference on Health Promotion and Disease Prevention with Older Adults at the Center on Aging at the University of California, Berkeley. Look through all 17 sections for related information.

APA Division 47
http://www.psyc.unt.edu/apadiv47/

Founded in 1986, Division 47 specializes in the relationship between psychology and the sport sciences. The division's main research areas include motivation, psychological considerations in sport injury, and rehabilitation.

Sports Management

Gender Equity in Sports
http://bailiwick.lib.uiowa.edu/ge/

This University of Iowa project includes in-depth information and resources about Title IX as well as other intercollegiate athletics policies.

NCAA Online
http://www2.ncaa.org/

The official Web site of the National Collegiate Athletic Association, it is an umbrella for many individual intercollegiate Web sites for specific games. In addition to news, the site offers sections on diversity programs, outreach programs, sportsmanship, sports sciences, and much more of interest to those involved in sports management at this level.

NFHS: The Official National Site for High School Sports and Activities
http://www.nfhs.org/ScriptContent/Index.cfm

The mission of the National Federation of State High School Associations is "to serve its members and its related professional groups by providing leadership and national coordination for the administration of interscholastic activities which will enhance the educational experiences of high school students and reduce risks of their participation." This is an important site for those involved in interscholastic sport management.

1998 Racial and Gender Report Card
http://www.sportinsociety.org/rgrc98.html

Here is a very important report card that concerns sport in society and the team management personnel who deal with racial and gender disparities in their local schools.

Adapted Physical Education

About: Adapted Physical Education (A.P.E.)
http://specialed.about.com/?once=true&

Subjects about every phase of adapted physical education are available at the About network along with FAQs and a description of A.P.E. standards.

Adapted Physical Education Advocacy Page
http://www.mankato.msus.edu/dept/colahn/APE/APEpage.html

Leonard Kalakian, a professor in the department of Human Performance at Minnesota State University, offers this A.P.E. discussion that covers everything from who it is for, who teaches it, the significance of physical education's primary service status, U.S. Congress advocacy for A.P.E., inclusion in regular physical education and potential abuses, and equal protection under the law for students with disabilities in education.

Palaestra: Forum of Sport, Physical Education, and Recreation for Those With Disabilities
http://www.palaestra.com/

Palaestra, a quarterly publication, is a premier resource on adapted physical activity, whose mission is to enlighten parents in all aspects of physical activity making them advocates for their children; to increase the knowledge base of professionals, making them aware of the "can do" possibilities of their students; and to show the value that physical activity holds for adult readers' increased wellness. All articles are available at this site.

Rehabilitation Psychology Links

Everything connected with disability, from aging and disability to social and ethical responsibility to traumatic brain injury, is available as links at this page. Much of the information bears on the place of physical education in rehabilitation.

Injuries

Epidemiology of Athletic Injuries
http://www.apa.org/divisions/div22/rehablinks.html

In *Primary Care Sports Medicine,* by Douglas McKeag and David Hough, Unit 2 deals with all the aspects of epidemiologic theory and methodology that apply to athletic injuries.

Exercise-Related Injuries Among Women: Strategies for Prevention From Civilian and Military Studies
http://www.cdc.gov/mmwr/preview/mmwrhtml/rr4902a3.htm

Injury incidence and risk factors associated with military physical training have been thoroughly studied, while incidence and risk factors for exercise-related injury have been poorly assessed in women participating in recreational exercise activities. These study results apply to both groups.

The Psychological Effects of Injury on Sports Performance Comeback in an Australian Setting
http://www.geocities.com/CollegePark/5686/su99p15.htm

This is the report of a study of the psychological effects from sports injuries and the factors that contributed to sports performance comeback in 27 male athletes from contact and noncontact sporting activities. Both groups experienced comparably high levels of stress at the time of their injury.

Recreation

American Association for Leisure and Recreation (AALR)
http://www.aalr.org/

This is the Web site of AALR, an association that serves recreation professionals—practitioners, educators, and students—who advance the profession and enhance the quality of life of all Americans through creative and meaningful leisure and recreation experiences.

Guidelines for Developing Public Recreation Facility Standards
http://www.lin.ca/lin/resource/html/jk52.htm

Produced by the province of Ontario, this manual offers guidelines for the creation of recreational facilities and includes detailed descriptions of the planning process, standards for municipal recreation systems, tables for standards, special areas and facilities, and implementation of plans.

Playgrounds
http://www.edfacilities.org/rl/playgrounds.cfm

Prepared by the NCEF, the National Clearinghouse for Education Facilities, this report includes full-text online resources on accessibility guidelines for play areas, designing playgrounds for children of all abilities, playgrounds with maximum safety and minimal risk, and many other articles.

The Protective Factors Framework: A Key to Programming for Benefits and Evaluating for Results
http://rptsweb.tamu.edu/Faculty/Witt/wittpub4.htm

This article describes development of the Protective Factors Scale—the application of protective factor principles to developing programming for at-risk youth, and implications of the approach for the park and recreation field.

Safer Playgrounds for Young Children
http://www.ed.gov/databases/ERIC_Digests/ed355206.html

Created by the Educational Resources Information Center (ERIC), this report covers why playground injuries occur, whether there are safety standards for playgrounds, the importance of checking for hazards in playground equipment, and renovating an existing playground.

Biomechanical Applications

Biomechanics World Wide
http://www.per.ualberta.ca/biomechanics/sections.htm

This extensive online resource includes links to Biomechanics Societies and Working Groups, Biomechanics Journals, Computer Simulation in Biomechanics, Comparative Biomechanics, Orthopedics, Ergonomics, Orthotics and Prosthetics,

Biomedical Engineering, Gait and Locomotion, Motor Control, Muscle, and the Biomechanics of Sport and Exercise.

Ontario Kinesiology Association
http://www.oka.on.ca/

The Ontario Kinesiology Association's Web site exists "to promote the application of the science of human movement to professionals and to the community, to uphold the standards of the profession, and to assist kinesiologists in the performance of their duties and responsibilities."

Assessment and Measurement

FitnessOnline.com
http://www.oka.on.ca/

This site offers advice concerning exercise, nutrition, mind and body, health, adventure, and community and includes information about the components of fitness, activities, fitness assessment, and links to resources and fitness magazines.

Journal of Physical Education, Recreation & Dance (JOPERD)
http://www.aahperd.org/

This journal, a most wide-ranging periodical, includes articles on teaching strategies, fitness, legal issues, dancing, teacher education, adapted physical education, leisure for older adults, the use of technology and assessment, as well as issues of ethics and gender equity in sports and physical education.

Technology in Physical Education

Instructional Resources on the Web for PE Teachers

Link to the sites on this Web page for important and valuable insights about teaching physical education and for information about products and resources. Click on "Assessing Learning in Physical Education: Motor Skills Video" for facts about an award-winning video.

Online Technology Newsletter: Physical Education K-12

The purpose of this newsletter is to keep K-12 physical educators abreast of current trends in using technology in physical education.

Use of Computer-Based Technology in Health, Physical Education, Recreation, and Dance

This Digest focuses on computer-based technology as it relates to health, physical education, recreation, and dance educators in the areas of research, classroom teaching, and distance education.

Technology in Business Education Instruction

In classrooms nationwide, business educators play a prominent role in preparing students to become responsible citizens, capable of making the astute economic decisions that will benefit their personal and professional lives. Using the concepts described in these standards, business teachers introduce students to the basics of personal finance, the decision-making techniques needed to be wise consumers, the economic principles of an increasingly international marketplace, and the processes by which businesses operate. In addition, these standards provide a solid educational foundation for students who want to successfully complete college programs in various business disciplines.

This collection of national standards is a forward-looking synthesis of what students should know and be able to do in business.

The standards are based on a vision and a set of competencies designed to prepare students to become knowledgeable and ethical decision makers as they fulfill their roles as consumers, workers, and citizens.

The National Standards for Business Education is based on the conviction that business education competencies are essential for all students. Because all students will participate in the economic system, all students need to be literate in business and economics.

Because all students will encounter a business environment that is characterized by diversity—both domestic and international—all students need to practice the interpersonal, teamwork, and leadership skills that will help them function successfully in that environment.

Because all students will use technology as a tool for managing information, all students need to hone the lifelong learning skills that foster flexible career paths and confidence in adapting to a workplace that demands constant retooling.

Technology has accelerated the pace and frequency of change not only in business but also in life. Today, life and work activities tend to overlap. This trend is likely to continue and will require more sophisticated decision-making in all spheres.

The business education concepts as described in these national standards can contribute to the development of this "renaissance" worker. An education for and about business offers students the opportunity to master the fundamental knowledge and skills needed to succeed in business—and more importantly, an equal opportunity to succeed in life.
These national standards contain guidelines for a quality education in 11 content areas of business education—accounting, business law, career development, communication, computation, economics and personal finance, entrepreneurship, information technology, international business, management, and marketing. Each content area incorporates achievement standards and accompanying performance expectations. Each achievement standard states the understanding and competency students should attain. Each

performance expectation delineates what students need to do to exhibit the knowledge and the skills required to meet the achievement standard.

ACCOUNTING is an essential aspect of every business institution and organization. As future workers, small business owners, and entrepreneurs, students who understand basic accounting principles will more knowledgeably manage their companies' financial resources. As citizens, future parents, and investors, these students will be better prepared to make the economic decisions that will impact their communities-such as passing a referendum to build new schools-and to make the financial decisions that will affect their own economic futures.

The introduction of computerized systems has made the mastery of technology skills an integral part of the accounting curriculum. Automated procedures eliminate the repetitive tasks required for manual accounting and facilitate the inclusion of individual and group activities that involve higher-level thinking skills. The Internet also offers tremendous opportunities for financial research and a wide variety of learning applications and activities.

The following attitudes and skills are integrated and reinforced throughout the entire accounting curriculum: critical thinking, decision making, problem solving, team building, ethics, work quality, communication, and technology.

BUSINESS LAW addresses statutes and regulations affecting businesses, families, and individuals in their related roles. Knowledge of business law is useful for all students, because all students eventually assume roles as citizens, workers, and consumers in their communities and in society at large.

Businesses operate in a world in which the laws of different governments and judicial systems might conflict. Thus, business students, in particular, must include in their academic preparation a basic knowledge of the legal system and how business law impacts commerce in their own country and abroad. The impact of international business on business law mandates the inclusion of standards that address these complex issues. Each component of the business law standards includes performance expectations related to the laws of different countries. Students need to understand that state, territory, province, or federal law must sometimes work in conjunction with international law.
Technology, too, has significantly affected business law, and, therefore, these standards address computer law as a separate topic because of its emerging importance in the workplace.
Although the standards addressed in this document relate primarily to secondary and postsecondary students, standards for elementary and middle school are also included to provide students at those levels with a basic understanding of law and the legal system.

CAREER DEVELOPMENT differs from other curriculum areas in that it encompasses an individual's total lifestyle-education, occupation, social responsibility, and leisure activities. Instead of being viewed as a course or unit of instruction studied at a specific time, career education is best integrated into the entire curriculum at all academic levels.

When students begin career exploration at an early age, they gain a developmental understanding of their own strengths and weaknesses, the ever-evolving requirements of the workplace, and the relationship of lifelong learning to career success.

Learning to conduct a career search and to identify career pathways has become an important part of every student's education.

Whether the methodology includes informational interviewing, Internet searches, mentoring, job shadowing, school-to-career initiatives, or cooperative education, these career development standards are appropriate for all students and all program areas and play an increasingly important role in the entire educational system.

THE COMMUNICATION CURRICULUM encourages mastery of the oral and written skills essential for interacting effectively with people in the workplace and in society. Of equal importance is the development of technology and processing skills critical for acquiring, interpreting, evaluating, and managing information.

While basic principles of communication remain fairly consistent, certain facets of it-such as international communication-are constantly evolving. As the world continues to change politically, economically, and geographically, new communication strategies will evolve. Educators must study and integrate these into the curriculum if students are to function effectively in a global society.

Technology, in particular, profoundly influences business communication, making technological competence a requirement for career advancement.

The body of knowledge called "communication" is unique in that it permeates all areas of the business education curriculum as well as all other educational disciplines.

Communication standards, therefore, should not be limited to one course; they should be integrated throughout the curriculum.

COMPUTATIONAL in the curriculum, as a whole, and the development of computation skills, in particular, are essential in helping students fulfill their future roles as citizens, consumers, employees, employers, investors, inventors, and entrepreneurs. Computation skills, as defined in these standards, are more than just the skills needed to make quantitative and precise calculations. Rather, these skills encompass the ability to solve mathematical problems, analyze and interpret data, and apply sound decision-making skills and technological skills.

The business education curriculum offers multiple opportunities to develop, use, and integrate computation skills into consumer education, economics, personal finance, marketing, management, information technology, accounting, career development, basic business, and entrepreneurship. In addition, specific courses in business and consumer mathematics help students develop the computation skills needed to solve business- and consumer-related problems.

PERSONAL FINANCE The preservation and effectiveness of the American economic system depends on the ability of individuals to make wise economic decisions related to their personal financial affairs, the successful operation of organizations, and the economic activities of the country. In order to make these informed decisions, individuals must understand how the system operates as well as their role in the system.
The concepts contained in these standards are important for the successful management of personal financial and business activities. Knowledge and understanding of economic and personal concepts offers the necessary analytical tools for addressing economic issues, both personal and societal. The integration of technology tools (Quicken, spreadsheets and financial calculators) used in the real world will provide a lifelong learning experience for the students

ENTREPRENEURSHIP focuses on recognizing a business opportunity, starting a business based on the recognized opportunity, and operating and maintaining that business. Entrepreneurship is a natural fit for business education because entrepreneurship integrates the functional areas of business-accounting, finance, marketing, and management-and the legal and economic environments in which a new venture operates.

As with many areas of business education, entrepreneurship has a general education as well as a professional education component. All students benefit from developing an appreciation for and understanding of entrepreneurship in our economy: most of the jobs (both professional and technical) created in recent years have been in the small business sector.

Instruction in entrepreneurship begins with developing the fundamentals in the lower educational grades and advancing to more abstract applications through computer simulations and interactive internet programs at the upper educational levels, as indicated in these standards.

INFORMATION TECHNOLOGY permeates our society and our entire educational system. More than just a series of courses, information technology is an information-gathering, information-organizing, and problem-solving tool that supports every discipline. To help students during their school years as well as during their employment, business education must offer continuous instruction in current and emerging information technology. And all teachers-middle school and high school, must:

- Coordinate information technology curricula not only in business education but also across the entire curriculum
- Realize that knowledge and mastery of specific hardware or software skills are not the end-goals of information technology courses
- Understand that it is the student's ability to analyze, synthesize, and evaluate situations at home, school, or work, and then apply technology to solve problems and complete tasks efficiently and effectively, which is of lasting value

Information technologies are useful no matter what form they take-electronic, electromechanical, or manual. The increased use of electronic information technologies has created added concern about issues of intellectual property, privacy, and security.
Below is an overview of the achievement standards for the information technology content area. Each achievement standard states the understanding and competency students should attain.

- Assess the impact of information technology on society. Describe current and emerging computer architecture; configure, install, and upgrade hardware; diagnose and repair hardware problems.
- Identify, evaluate, select, install, use, upgrade, customize, and diagnose and solve problems with various types of operating systems, environments, and utilities.
- Describe the information technology components of major business functions and explain their interrelationships.
- Identify, evaluate, select, install, use, upgrade, and customize application software; diagnose and solve problems resulting from an application software's installation and use.
- Use input technologies appropriately to enter and manipulate text and data. Gather, evaluate, use, and cite information from information technology sources.
- Use, plan, develop, and maintain database management systems.
- Design, develop, test, and implement programs.
- Design, develop, and utilize web pages effectively.
- Analyze and design information systems using appropriate development tools.
- Develop the skills to design, deploy, and administer networks and communications systems.
- Use, evaluate, and deploy communications and networking applications.
- Plan the selection and acquisition of information technologies.
- Develop the technical and interpersonal skills and knowledge to support the user community.
- Design and implement risk management policies and procedures for information technology.
- Describe, analyze, develop, and follow policies for managing privacy and ethical issues in organizations and in a technology-based society.
- Describe positions and career paths in information technology.

INTERNATIONAL BUSINESS is an area of the business education curriculum that commands center stage in today's global economy. The international business standards focus on:

- Raising awareness of the interrelatedness of one country's political policies and economic practices on another
- Learning to improve international business relations through appropriate communication strategies
- Understanding the global business environment-that is, the interconnected-ness of cultural, political, legal, economic, and ethical systems
- Exploring basic concepts underlying international finance, management, marketing, and trade relations

- Identifying forms of business ownership and international business opportunities

The study of international business is best implemented early in students' educational backgrounds and should be steadily reinforced to ensure that students graduate with the ability to use these skills effectively in global organizations.

MANAGEMENT is the process of using organizational resources effectively and efficiently to achieve organizational goals through planning, organizing, leading/directing, and evaluating/controlling. Management education helps students understand various management theories, basic management functions and their interrelationships, and the organization and competitive niche of a business.

Successful managers are able to maximize the utilization of human resources. They are leaders who understand the benefits of teamwork and consensus building inside and outside an organization's operations. They recognize the importance of technology and information management in the decision-making process and the value of ethics and social responsibility in building and maintaining business relationships. And like entrepreneurs, successful managers know that the ability to discern and respond quickly to changing economic conditions and new business opportunities is crucial to remaining viable in the marketplace.

The study of management is an essential component in the design and delivery of the business education curriculum.

MARKETING education introduces students to the processes and functions involved in transferring business products or services to a consumer. The study of marketing in grades K-12 can help students gain a clearer picture of how key business functions, such as accounting and finance, are directly related to marketing activities. In addition, taking marketing courses may inspire students to study marketing at a more advanced level, which can be a springboard for a challenging and lucrative career. As a major business function, marketing impacts the American economic system as well as the international economy. There are at least two major principles related to marketing that all students should understand:

- General marketing concepts are important to everyone since they impact individuals, business, and society.
- Even though marketing practices continue to change, the conceptual framework, which is built upon a consumer orientation, should not be noticeably altered.

Marketing exists within an environment of rapidly evolving technology, interdependent nations and their economies, increasing demands for ethical and social responsibility, and constant change.

Useful Web Sites for Business Education Instruction

Website Address	**Brief Description of Content**	**Course/Level/Topic**
http://www.hse.gov.uk	Latest info on campaigns, legislation	Admin - health and safety - all levels
http://www.ergonomics4schools.co.uk	Lots of info on office safety, requirements etc. Fun/cartoon type presentation.	Admin - SG field of study 1 and 2
http://www.tudogs.com	Free clip art	All courses - all levels
http://www.schoolzone.co.uk	Good business section	All courses - all levels
http://www.Channel4.com/realdeal	Great site for aspiring entrepreneurs	All business subjects - all levels
http://www.open.gov.uk	Latest legislation, rules, procedures and practices	Better suited to H level classes - good for Admin and Bus Man
http://www.bbc.co.uk	All areas of current news and events	Bus Man - all levels
http://www.bitesize.revision	Pitched at GCSE but good business studies section and information technology section	Standard Grade, Int 1 and Int 2 levels
http://www.osl-ltd.co.uk	Excellent source of revision notes	Bus Man - Higher, Adv Higher
http://www.thetimes100.co.uk	Real life case studies, company info, general business info	Bus Man - all areas - all levels

http://www.osl-ltd.co.uk/index.html	The Oxford School of Learning	
http://www.cnnfn.com	CNN Financial Network	
http://www.shell.com	Royal Dutch/Shell Group of Companies	
http://www.scottishpower.olc.uk/	Scottish Power Plc	
http://www.severn-trent.com/	Severn Trent Plc	
http://www.businesslink.co.uk/	National Advice center Network for large/small businesses	
http://www.carltonplc.co.uk/	Carlton Communications Plc	
http://www.dti.gov.uk/	UK Department of Trade & Industry	
http://www.granada.co.uk/	Granada Group Plc	
http://www.marks-and-spencer.co.uk/	Marks and Spencer UK	
http://www.sainsburys.co.uk/	Sainsbury's	
http://www.natwestgroup.com/	NatWest Group	
http://www.worldbank.org/	The World Bank Group	
http://www.osha.gov/	(US) Occupational Safety and Health Administration	
http://www.ilo.org/	International Labor Organization	
http://www.tuc.org.uk/	Trades Union Congress	
http://www.msf.org.uk	MSF the union	

	for skilled and professional people	
http://www.gmb.org.uk/	Under construction	
http://www.tesco.co.uk	Tesco	
http://www.gap.com	Gap	
http://www.ipa.co.uk	Institute of Practitioners in Advertising	
http://www.mad.co.uk	Marketing Week	
http://www.adage.com	Advertising Age	
http://www.asa.org.uk	Advertising Standards Authority	
http://www.statistics.gov.uk	The Source (Government Statistical Service)	
http://www.the-times.co.uk/	The Times	
http://www.open.gov.uk/	CCTA Government Information Service	
http://www.bankofengland.co.uk/	Bank of England	
http://www.europa.eu.int	Europa	
http://www.iipuk.co.uk/	Investors in People	
http://www.ipd.co.uk/	Institute of Personnel and Development	
http://www.nbs.ntu.ac.uk/staff/lyeri/htrm.link.htm	Human Resource Management Resources on the Internet	
http://www.altavista.digital.com/	Alta Vista Connections - powerful/useful guide to the Net	

http://www.iosh.co.uk/	The Institution of Occupational Safety and Health	
Health and Safety		
http://www.altavista.digital.com/	Alta Vista Connections - powerful/useful guide to the Net	
http://www.iosh.co.uk/	The Institution of Occupational Safety and Health	
http://www.bized.ac.uk/listserv/listhome.htm		
http://www.open.gov.uk/hse/hsehome/htm		
http://www.osha.gov/	(US) Occupational Safety and Health Administration	
http://www.ilo.org/	International Labor Organization	
http://www.ilo.org/public/english/90travi/sechyg/index.htm		
http://www.tuc.org.uk/	Trades Union Congress	
http://www.bized.ac.uk/compfact/comphome.htm		
http://www.msf.org.uk	MSF the union for skilled and professional people	
http://www.gmb.org.uk/	Under construction	
http://www.cwu.org.uk/		
http://www.becta.org.uk/		
Human Resource Management		
http://www.iipuk.co.uk/	Investors in People	

http://www.ipd.co.uk/	Institute of Personnel and Development	
http://www.bized.ac.uk/compfact/comphome.htm		
http://www.nbs.ntu.ac.u/staff/lrm-link.htm		
http://www.bized.ac.uk/listserv/listhome.htm		
http://www.ahri.com.au/home.html		
Ethical Business		
http://www.altavista.digital.com/	Alta Vista Connections - powerful/useful guide to the Net	
http://www.infoseek.com/		
http://www.-U.lycos.com/		
http://www.oneworld.org/guides/ecg/front/.html		
http://www.arq.co.uk/ethicalbusiness/		
http://condor.depaul.edu/ethics/		
http://www.ethics.ubc.ca/		
http://www.bized.ac.uk/		
http://www.the-body-shop.com/		
http://www.bp.com/care.html		
http://www.dupont.com/corp/gbl-company/history.html		
http://www.jnj.com/who-is-inj.sr-index.html		
http://www.j-		
http://www.sainsbury.co.uk/company/environment.html		
http://www.shell.com/o/ol.html		
Travel		
http://www.expedia.co.uk		Admin (Standard Grade)
http://www.railtrack.co.uk	Train Times	
http://www.theaa.co.uk	Road Information	
http://www.britishairways.co.uk		
http://www.tutor2u.net	Electronic Tutor	

http://www.marketingteacher.com	Marketing, Powerpoint presentations, quizzes	
http://www.businesslink.org	Business Link - practical advice for starting own business or business studies course	
http://www.dti.gov.uk	Department of Trade & Industry	
http://www.virgin.com	Virgin & Richard Branson	
http://www.ncp.co.uk	NCP Car Parks	
http://www.newscorp.com	Rupert Murdoch	
http://www.newsinternational.com		
http://www.easygroup.co.uk	EasyJet and Stelios Haji-loannou	
http://www.londonnet.co.uk	Virtual tour/travel guide - accommodation, nightlife etc	Administration
http://www.uktravel.com	Tourist info, hotel & restaurant directory & maps	
http://www.streetmap.co.uk	Streets and places in UK	
http://www.mapquest.com	Street maps	
http://www.airnet.co.uk	Independent travel companies, flights	
http://www.refdesk.com	Reference Material	

http://www.oanda.com/converter	Exchange Rates	
http://www.hotels.co.uk	Hotel accommodation	
News		
http://www.thesun.co.uk		Business Management
http://www.newsoftheworld.co.uk		
http://www.dailyrecord.co.uk		
http://www.telegraph.co.uk		
http://www.internetforschools.co.uk		
http://www.scotsman.com		
http://www.thetimes.com		
http://www.ft.com		
http://www.thecourier.co.uk		
http://www.fifeonline.co.uk		
http://www.scotland.gov.uk	Scottish Executive - gov links	
http://www.open.gov.uk	Gov website - statistics etc	
http://www.scottishenterprise.com	Business startup advice etc	

SUMMARY OF HIGH SCHOOL COMPUTER EXPECTATIONS
By Subject Area

SUBJECT	CONTENT KNOWLEDGE	EXPERTISE	APPLICATION
ARTS	1. Utilize computer drawing programs for creativity. 2. Utilize multimedia production for portfolios. 3. Utilize still and live video in projects. 4. Utilize animation software. 5. Utilize CD-ROM software for art history and appreciation. 6. Utilize database and telecommunication for research.	Introduction and exploration	Projects in art history and appreciation become unlimited due to internet and multimedia access. Art and animation software expands student awareness.
BUSINESS	1. Utilize spreadsheet and database to analyze financial date. 2. Advanced word processing/desktop publishing/spreadsheet/database training. 3. Utilize computerized marketing and advertising programs using multimedia software. 4. Utilize high-level multimedia presentation software. 5. Utilize HTML, Front Page and Dream Weaver 6. Analyze online information for advertising and marketing research.	Mastery of word processing, database, spreadsheet, and desktop publishing. Mastery of accounting software, Web design software and some expertise in graphical software for advertising and publishing	Utilize software expertise in areas of business, marketing, sales, and advertising. Analyze financial banking and accounting data (example: amortization).
ENGLISH	1. Well-written, visually pleasing documents using word processing skills and research. 2. Multimedia capability to produce presentation-level projects. 3. Utilize Internet for research with the ability to recognize valid and invalid information. 4. Utilize interactive software for writing purposes and to enhance the study of literature. 5. Utilize software for remediation of skills in grammar/punctuation. 6. Utilize electronic library.	High-level mastery of word processing skills and desktop publishing. Mastery of Internet usage, electronic library, and interactive software.	Essays, themes, research reports, letters, timelines, peer editing

SUMMARY OF HIGH SCHOOL COMPUTER EXPECTATIONS
By Subject Area

SUBJECT	CONTENT KNOWLEDGE	EXPERTISE	APPLICATION
FOREIGN LANGUAGE	1. Utilize foreign language word processors for writing. 2. Vocabulary review via computer 3. Utilize digitized voice and audio. 4. Telecommunications and data resources for research.	Introduction and later mastery	Write reports in foreign language and research cultures. Repetition of oral language development via computer.
HEALTH, PHYSICAL EDUCATION	1. Utilize computer-based resources to research health and physical education. 2. Utilize database and telecommunication for research. 3. Utilize instructional resources on videotape, videodisk, and instructional television.	Knowledge of health issues and concerns	Online services to create reports and projects for health research. Statistical analysis of disease and health problems worldwide.
INDUSTRIAL TECHNOLOGY	1. Utilize CAD system. 2. Utilize spreadsheet and database for analysis for design and parts specification. 3. Ability to use computer-integrated technology. 4. Troubleshoot, maintain, and repair PCs.	Working knowledge of CAD systems and architectural drawing and design	Parts design and research. Drafting projects and analysis of data. Research capability via online information.
MATH	1. Use basic programming knowledge to master REM, GOTO, IF-THEN DEF. FN. FOR-NEXT, RND 2. Print and product organized charts and output. 3. Use spreadsheet functions to create usable data and results.	Introduce and master BASIC/ VISUAL BASIC/COBOL programming options. Master higher-level spreadsheet use, charting, and graphing	Analyze mathematical data, probability and statistics. Write programs to evaluate mathematical equations. Produce spreadsheets to analyze data and print charts and graphs.

SUMMARY OF HIGH SCHOOL COMPUTER EXPECTATIONS
By Subject Area

SUBJECT	CONTENT KNOWLEDGE	EXPERTISE	APPLICATION
MEDIA CENTERS	1. Utilize computerized card catalogs. 2. Utilize databases on CD-ROM. 3. Utilize telecommunications, including satellite television and local and world wide online resources for research. 4. Access to multiple computer stations. 5. Access to central location of electronic resources. 6. Studio TV production and broadcasting.	Mastery of library services and technology.	Unlimited access to information locally and worldwide. Utilized for all curriculum areas. Use of hypermedia to organize data. Use of information technologies as a creative expression and communication of ideas. Receive and contribute to the world's knowledge and information.
MUSIC	1. Utilize database and telecommunications for research in music appreciation and history. 2. Utilize resources on audio compact disc. 3. Use of MIDI interface for music composition and performance. 4. Utilize multimedia resources for creative music expression.	Introductory working knowledge of computerized music.	Online services to create reports and projects for music appreciation and history. Working knowledge of interface composition and performance.
SCIENCE	1. Utilize spreadsheet, charting, and presentation features to produce a presentation-level document. 2. Navigate a university-based bulletin board to gain access to current data and information. 3. Contribute to high school-level data- gathering services, and extract compiled results.	High-level mastery of database and spreadsheet knowledge. Use of the Internet database and online research.	Laboratory assessments move from pencil and paper to presentation printouts. Use of the Internet database to obtain research paper information and contribute to research compilation.

SUMMARY OF HIGH SCHOOL COMPUTER EXPECTATIONS
By Subject Area

SUBJECT	CONTENT KNOWLEDGE	EXPERTISE	APPLICATION
SOCIAL STUDIES	1. Utilize software and online resources for map skills. 2. Utilize CD-ROM and online resources for research. 3. Utilize multimedia software for presentations and reports. 4. Utilize still video and digitized peripherals used in student projects. 5. Utilize desktop publishing/word processing for reports. 6. Utilize simulation software for problem solving. 7. Utilize basic Internet research tools.	Basic knowledge of internet, CD-ROM use, and multimedia presentation training. Knowledge of word processing and desktop publishing	Online services to create reports and projects. In-depth research available to students. Multimedia presentation to enhance public speaking abilities.
SPECIAL EDUCATION	1. CAI software for remediation. 2. Assistive peripherals and software for special needs. 3. Utilize word processing. 4. Drill and practice for skill development. 5. Instructional resources on videotape, videodisk, and instructional television.	Introduction, exploration, and mastery of basic skills for employment	Drill and practice to master skills for employment and higher achievement in content areas.

High School English Instructional Technology
Sample Lesson Plan
Internet Research Paper Project

Description of Technology Integration

Teachers will demonstrate Internet navigation and search skills using a computer lab. Common mistakes will be identified and time saving techniques will be taught.

Students will take notes on information obtained from the Internet and word process a research paper. Teachers will demonstrate the appropriate use of word processing skills including: tabs, font size, spell check and thesaurus.

Learning Objective(s)

1. Students will learn Internet navigation and search techniques identified in the "Objectives Framework."
2. Students will learn word processing skills identified in the "Objectives Framework."

Measurable Outcome(s)

- Word processed research paper

ISTE Standard(s)

- #1 Basic Concepts and Operations
- #2 Social, Ethical and Human Issues
- #3 Technology Productivity Tools
- #4 Technology Communications Tools
- #5 Technology Research Tools

Assessment(s)

- Rubric to assess the quality of the project

Resources Required

- One day of professional development
- Lesson modeling
- Project resource packet
- Assessment rubric
- 3-4 class periods scheduled in the computer lab

Technology Integration Projects"

- Additional Suggested Technology Integration Projects
- Complete a similar project with another topic
- Complete an Inspiration project
- Complete a Microsoft Publisher project
- Complete a language arts Web Quest

ISTE Standards	Objectives	Measurable Outcomes
#1, 5	a. Students will enter a URL using the shortcut Ctrl+L.	Observation of Student Application
#1, 5	b. Students will use the Internet to research a topic.	Observation of Student Application
#1, 5	c. Students will use search strategies such as: multiple word searches and Boolean strategies.	Observation of Student Application
#1, 5	d. Students will analyze the quality of a web site.	Observation of Student Application
#1, 5	e. Students will print part of a web page using the Print Selection command.	Research Paper and Notes
#1, 3, 4	f. Students will copy/paste information from the Internet into a Microsoft Word document for note taking purposes.	Research Paper and Notes
#2	g. Students will cite Internet sources.	Research Paper Bibliography
#1, 3, 4	h. Students will set tabs within their research paper and bibliography.	Research Paper Bibliography
#1, 3, 4	i. Students will check their spelling with the Spelling Tool.	Observation of Student Application
#1, 3, 4	j. Students will use the Thesaurus Tool to broaden their scope of word use.	Observation of Student Application
#1, 3, 4	k. Students will print a document.	Research Paper

High School Mathematics Instructional Technology Sample Lesson Plan

Microsoft Excel Project

Description of Technology Integration

Students will create a spreadsheet to record data: grades, budget, stocks or other topic. Students will use Microsoft Excel's Chart Wizard to create a graph based on the data.
The spreadsheet will include formulas. Format and print techniques will be taught. Students will analyze their data and write a summative report.

Learning Objective(s)

1. Students will use Microsoft Excel to display data.
2. Students will use Microsoft Excel to create formulas.

Measurable Outcome(s)

- Spreadsheet with formulas
- Graphs based on the spreadsheet
- Summative report

ISTE Standard(s)

- #1 Basic Concepts and Operations
- #3 Technology Productivity Tools
- #4 Technology Communications Tools
- #6 Technology Problem-Solving and Decision-Making Tools

Assessment(s)

- Rubric to assess the quality of the project

Resources Required

- One day of professional development
- Lesson modeling
- Project resource packet
- Assessment rubric
- 3-4 class periods scheduled in the computer lab

Technology Integration Projects"

- Additional Suggested Technology Integration Projects
- Complete an additional Microsoft Excel project
- Complete a mathematics Web Quest

ISTE Standards	Objectives	Measurable Outcomes
#1, 3, 4	a. Students will learn basic spreadsheet concepts: cell, row and column.	Observation of Student Application
#1, 3, 4	b. Students will learn multiple spreadsheet navigation techniques: arrows, mouse, Tab and Enter.	Observation of Student Application
#1, 3, 4	c. Students will input and edit data in a cell.	Spreadsheet Project
#1, 3, 4	d. Students will format text in a cell: alignment, size and style.	Spreadsheet Project
#1, 3, 4	e. Students will format a cell: numbers, merge and center, alignment and wrap text.	Spreadsheet Project
#1, 3, 4	f. Students will use the Formatting Toolbar.	Spreadsheet Project
#1, 3, 4	g. Students will use the Outside Border and Fill Color buttons to highlight data	Spreadsheet Project
#1, 3, 6	h. Students will enter formulas to calculate data.	Spreadsheet Project
#1, 3, 4	i. Students will create graphs from their data.	Spreadsheet Project
#1, 3, 4	j. Students will use Print Preview and Page Setup to plan printing of the document.	Spreadsheet Project
#1, 3, 4	k. Students will print a document.	Spreadsheet Project

High School Social Studies Instructional Technology Sample Lesson Plan

Microsoft PowerPoint Project

Description of Technology Integration

Students will use a topic identified by their teacher to create a Microsoft PowerPoint presentation. Textboxes will be created on a majority of slides. Students will add elements such as clip art, transitions and background designs to enhance their project.

Learning Objective(s)

1. Students will create a multimedia slide show.
2. Students will input images and computer-generated effects into their slide show.
3. Students will use the Internet to access information.

Measurable Outcome(s)

- Microsoft PowerPoint presentation

ISTE Standard(s)

- #1 Basic Concepts and Operations
- #2 Social, Ethical and Human Issues
- #3 Technology Productivity Tools
- #4 Technology Communications Tools
- #5 Technology Research Tools

Assessment(s)

- Rubric to assess the quality of the project

Resources Required

- One day of professional development
- Lesson modeling
- Project resource packet
- Assessment rubric
- 4-5 class periods scheduled in the computer lab

Technology Integration Projects"

Additional Suggested Technology Integration Projects

- Complete an additional Microsoft PowerPoint project
- Complete a social studies Web Quest
- Complete a Microsoft Publisher project

ISTE Standards	Objectives	Measurable Outcomes
#1, 3, 4	a. Students will create a series of slides with text and graphics	Microsoft PowerPoint Project
#1, 3, 4	b. Students will navigate between slides	Microsoft PowerPoint Project
#1, 3, 4	c. Students will insert and edit a text box.	Microsoft PowerPoint Project
#1, 3, 4	d. Students will create a background with a color or theme.	Microsoft PowerPoint Project
#1, 3, 4	e. Students will insert a clip art image.	Microsoft PowerPoint Project
#1, 3, 4	f. Students will insert a picture file from at least one source: disk, scanner, camera or Internet.	Microsoft PowerPoint Project
#1, 3, 4	g. Students will use at least one draw tool from the Draw Toolbar.	Microsoft PowerPoint Project
#1, 3, 4	h. Students will insert an audio clip or movie.	Microsoft PowerPoint Project
#1, 3, 4	i. Students will reorder slides using the Slide Sorter View.	Microsoft PowerPoint Project
#1, 3, 4	j. Students will add Slide Transitions between slides.	Microsoft PowerPoint Project
#1, 3, 4, 5	k. Students will use the Internet to research information for their Microsoft PowerPoint project.	Microsoft PowerPoint Project
#2	l. Students will cite sources from the Internet on their slides	Microsoft PowerPoint Project
#1, 3, 4	m. Students will present their Microsoft PowerPoint project through printout, web page, projector presentation or computer presentation.	Microsoft PowerPoint Project

High School Science Instructional Technology
Sample Lesson Plan
Microsoft Publisher Project

Description of Technology Integration

Students will use Microsoft Publisher to display information on a science topic identified by their teacher. The program's Wizard will be used to create the project template. All students will use the brochure template during their first experience with the program. Teachers will show students how to manipulate objects, change colors and publish to a printer.

Learning Objective(s)

1. Students will use Microsoft Publisher to display information.

Measurable Outcome(s)

- Microsoft Publisher document

ISTE Standard(s)

- #1 Basic Concepts and Operations
- #3 Technology Productivity Tools
- #4 Technology Communications Tools

Assessment(s)

- Rubric to assess the quality of the project

Resources Required

- One day of professional development
- Lesson modeling
- Project resource packet
- Assessment rubric
- 2-3 class periods scheduled in the computer lab

Technology Integration Projects"

- Additional Suggested Technology Integration Projects
- Complete an additional Microsoft Publisher project
- Complete a Microsoft Excel project (formula, tables and graphs)
- Complete a science Web Quest

ISTE Standards	Objectives	Measurable Outcomes
#1, 3, 4	a. Students will apply basic object concepts: move, resize, add/delete and edit.	Microsoft Publisher Project
#1, 3, 4	b. Students use layout navigation skills: zoom and scroll.	Observation of Student Application
#1, 3, 4	c. Students will create and edit text boxes.	Microsoft Publisher Project
#1, 3, 4	d. Students will insert an image into their document.	Microsoft Publisher Project
#1, 3, 4	e. Students will use drawing tools to enhance their document.	Microsoft Publisher Project
#1, 3, 4	f. Students will adjust the Color Scheme of their project.	Microsoft Publisher Project
#1, 3, 4	g. Students will adjust the Design of their project.	Microsoft Publisher Project
#1, 3, 4	h. Students will print their document on a color printer.	Microsoft Publisher Project

High School Technology Terms

A

acceptable use policy This is a policy set up by the network administrator or other school leaders in conjunction with their technology needs and safety concerns. This policy restricts the manner in which a network may be used, and helps provide guidelines for teachers using technology in the classroom.

alias A file that points to another item, such as a program, document, folder, or disk. When an alias is opened, the original item that the alias points to is opened. This helps in the organizing and accessing of files. Alias is purely a Mac term. The equivalent term for Windows-based computers is a shortcut.

ASCII American Standard Code for Information Interchange. This international standard contains 128 codes that correspond to all upper and lower-case Latin characters, numbers, and punctuation marks. Each code is represented by a seven-digit binary number: 0000000 through 1111111.

application A software program that lets you complete a task, such as writing a paper, creating a poster, designing an image, or viewing a Web page.

B

bandwidth The amount of information that one can send through a connection, measures in bits-per-second (Bps). A standard page of English text contains about 16,000 bits.

BCC Blind Courtesy Copy or Blind Carbon Copy. A way to send an e-mail message to more than one recipient, without the parties knowing that an identical message was sent to others. Using the BCC is a good way to avoid the long list of recipients that your correspondents usually have to wade through in the header of a mass-mailing. See CC.

bit Binary DigIT. A single digit number in base-2 (either a one or a zero). This is the smallest unit of computerized data.

browser The software application that allows you to view Internet pages.

browser-safe colors Although there are millions of colors in the computer world, there are only 216 colors that are browser-safe, or are able to be read by any Web browser. These colors will remain true no matter what platform or browser you use, and their hexadecimal codes (numerical names for colors) are made up by using any combination of 00 33 66 99 CC or FF.

BTW An acronym often used in e-mail messages and chat sessions to mean: "by the way."

byte A set of 8 bits that means something to the computer, like a letter, number, or punctuation mark. For example, the byte 01001000 signifies the character *H*. The three-letter word *hat* requires 3 bytes.

C

client/server A term denoting the technology relationship between two types of computers, the client (normally your Mac or PC) and the server (a computer that stores and delivers information or files to you). When surfing the Internet, you are the client, and the pages you are reading come from the server, such as the www4teachers server.

CC Courtesy Copy, derived from the non-digital Carbon Copy. A way to send an e-mail message to a person other than the main recipient or recipients. The CC'ed party can see that they are not the main recipient of the letter.

control key (CTRL) A key used to access commands through the keyboard rather than the menus. CTRL commands are commonly shortcuts.

control panel A window you can open to adjust various aspects of your computer, such as the volume, fonts, desktop background, mouse speed, and clock.

CPU Central Processing Unit. The CPU is the hardware that most people consider the "brain" of the computer. It takes instructions from software, makes calculations, and helps run the show!

D

desktop The background behind all your windows, menus, and dialog boxes: your virtual desk. You can change the look of your desktop by applying different properties to it through your control panel.

domain name The unique address name for an Internet site. The part on the left is the most specific, and the part on the right is the most general. Each domain name is associated with one and only one Internet Protocol Number, which is translated by a Domain Name System (DNS).

download To save a file onto your computer from another source, like the Internet. People often download files, such as free-ware, share-ware, for installations, and sounds, movie clips, text files, or news streams onto their computer for viewing or listening.

DNS Domain Name System. This is a service that stores, translates, and retrieves the numerical address equivalents of familiar host names that you use everyday (such as the "www.4teachers.org" in http://www.4teachers.org). Each host name corresponds to a numerical address required by standard

Internet protocol that the DNS retrieves in order to allow you to remember addresses with names, not numbers. DNS entries are housed on numerous servers worldwide.

E

Ethernet A common method of networking computers in a Local Area Network (LAN). Ethernet can handle from 10,000,000-100,000,000 bits-per-second (or 10-100 megabits-per-second) and can be used with almost any kind of computer.

F

Finder The Finder is the default open application on a Macintosh, and it's represented by a little, purple, happy face icon in the top right-hand corner of the screen. Most people think of it as the desktop, however, or as the utility that lets you navigate quickly among open programs. When you click on the Finder, you can designate which of your open applications will be the *active* one.

firewall Hardware and/or software that separates a Local Area Network (LAN) into two or more parts for security purposes.

FTP File Transfer Protocol. A set of rules that allows two computers to "talk" to one another while transferring files from one to another. This is the protocol used when you transfer a file from one computer to another across the Internet. Many Internet sites have publicly accessible repositories of information that can be obtained using FTP, by logging in using the account name "anonymous." These sites are called "anonymous ftp servers."

G

GIF Graphics Interchange Format. An efficient method of storing graphics developed for CompuServe in the early 1980s. GIF files take up a small amount of disk space and can be transmitted quickly over phone lines. GIFs can be viewed on any computer platform and are best for illustrations, cartoons, logos, or similar non-photographic graphics.

H

hard drive A device for storing information in a fixed location within your computer. The equivalent of a filing cabinet in an office, the hard drive is used for storing programs and documents that are not being used.

hexadecimal code Also called Hex codes. In HTML, colors are identified by a six-character string of numbers and letters (0,1,2,3,4,5,6,A,B,C,D,E,F) derived from base-16 mathematics. The codes are used to convert RGB (red, red, and red) values into something HTML can understand. Pure red would be #FF0000.

homepage The page on the Internet which most often gives users access to the rest of the Web site. A site is a collection of pages.

host The name given to any computer directly connected to the Internet. Host computers are usually associated with running computer networks, online services, or bulletin board systems. A host computer on the Internet could be anything from a mainframe to a personal computer. See also DNS.

HTML Hypertext Markup Language. This is the coding language used to create sites on the World Wide Web.

hypertext Generally any text in a file that contains words, phrases, or graphics that, when clicked, cause another document to be retrieved and displayed. Hypertext most often appears blue and underlined in Web pages.

I

icon Symbols or illustrations on the desktop or computer screen that indicate program files, documents, or other functions.

IP Number Internet Protocol number. A unique number consisting of four parts separated by dots, for example 129.237.247.243. This is the number assigned to a host machine which is retrieved by a DNS when a request for an Internet site is made. These numbers usually correspond to unique domain names, which are easier for people to remember.

J

JPG or JPEG An efficient method for storing graphic files for transmission across phone lines. Unlike GIF files, JPG files lose a little data when the image is converted, and their files are often much larger than GIFs. However, JPGs are your best choice for photographic images.

K

kilobyte (KB) A thousand bytes. Due to the binary nature of computers, it's 2^{10} bytes, technically 1024 bytes.

L

LAN Local Area Network. A computer network limited to the immediate area, usually the same building.

Linux An operating system that is a UNIX clone. It was created by programmer Linus Torvalds,

who gave Linux its name. Linux is under special copyright that allows anyone to improve it, but no one to profit from it.

listserv A very common program used to run a mailing list. Because it is so common, mailing lists are often called listservs, even if they are run with different software.

M

mailing list A system that allows people to send e-mail to one address, which is then copied and sent to all of the other subscribers to the mail list. In this way, people who may be using different kinds of e-mail access can participate in discussions together.

menu bar A horizontal strip at the top of a window that shows the menus available in a program.

motherboard A computer's main circuit board, containing the CPU, microprocessor support chips, RAM, and expansion (bus) slots. Also known as the logic board.

N

newsgroup Usenet newsgroups are Internet discussion groups whose topics are about as diverse as you can imagine. If you have an original idea for a newsgroup, and gather some people who want to subscribe, you can probably begin a newsgroup.

network A group of connected computers that allows people to share information and equipment. Many schools have a Local Area Network and are also connected to a Wide Area Network, such as the World Wide Web.

O

operating system (OS) This is the programming that makes your computer run its most basic functions. Some examples are UNIX, Linux, Windows 95, 98, or NT, and Mac OS 7 and 8.5.

P

personal computer (PC) A microcomputer with its own processor and hard drive. Although technically this refers to all such computers, including Macs, the term PC is nearly synonymous with only the IBM-compatible microcomputers.

PING Packet Internet Gopher. A TCP/IP application that sends a message to another computer, waits for a reply, and displays the time the transmission took. This serves to identify what computers are available on the Internet and how long wait-times are.

plain text This is text without extraneous codes that designate font size, font style, et cetera. See ASCII.

plug-in A small piece of software that adds features to already existing, usually large, programs.

pulldown menu A list of options that "pulls down" when you select a menu at the top of a window. For example, the File menu in most programs is a pull down menu that reveals commands such as **open**, **new**, and **save**.

Q

QBE Query By Example. A search method for databases in which the user fills out the form by following the examples given.

R

RAM Random Access Memory. Readable and writeable memory that acts as a storage area while the computer is on, and is erased every time the computer is turned off. This memory stores data and helps execute programs while in use.

ROM Read Only Memory. Readable memory that cannot be corrupted by accidental erasure. ROM retains its data when the computer is turned off.

S

search engine Any of a number of giant databases on the Internet which store data on Web sites and their corresponding URLs. Some popular search engines are Metacrawler, Alta Vista, and Excite.

server A computer or software package that provides a specific service to client software running on other computers. The term can refer to a particular piece of software, such as a WWW server, or to the machine on which the software is running, hence the popular phrase: "The server's down."

shortcuts Key strokes that enact the same commands available in the menus of a program. They are quicker and more direct, and usually involve two or three keys depressed simultaneously. An example is the **save** shortcut: **CTRL** + **s** on a PC.

solutions integrator A type of consulting business that helps other businesses integrate new technology into their existing structure. The technology being integrated includes: supply-chain management systems, sales-force automation systems, e-commerce, Internet development telecommunications, computer telephony, etc.

sysop Systems operator. A person responsible for the operations of a computer system or network. Part of such operations are security checks and routine maintenance.

T

T-1 One of the fastest leased-line connections used for the Internet. It is capable of transmitting data at roughly 1.5 million bits per second, still not fast enough for full-screen, full-motion video.

TCP/IP Transmission Control Protocol/Internet Protocol. The programming protocols invented by individuals in the U.S. Department of Defense to carry messages around the Internet.

technology The application of scientific discoveries to the development and improvement of goods and services that ideally improve the life of humans and their environment. Such goods and services include materials, machinery, and processes that improve production or solve problems. In schools, technology ranges from pencils, books, and furniture to lighting, transportation, computers, and more. Most common references in schools imply computing or computer-related programs.

U

UNIX A multi-user operating system that was used to create most of the programs and protocols that built the Internet.

URL Uniform Resource Locators. This is the address of any given site on the Internet. The URL of this site is: *http://www.4teachers.org/glossary/index.shtml*

V

VGA Virtual Graphics Array. This standard video graphics adapter was created by IBM and has been since improved in Super VGA, which generally supports "true color" or 16.8 million colors.

virtual With regard to memory, virtual refers to temporarily storing information on the hard drive. Virtual memory is controlled automatically by the operating system.

W

WAIS Wide Area Information Server. A software system intended to search large database servers on the Web, and then rank the findings or hits.

WAN Wide Area Network. This network connects several computer so they can share files and sometimes equipment, as well as exchange e-mail. A wide area network connects computers across a large geographic area, such as a city, state, or country. The World Wide Web is a WAN.

word processor The software used to produce documents, such as letters, posters, reports, and syllabi. Common word processors used in schools are MS Works, MS Word, or ClarisWorks.

WYSIWYG What You See Is What You Get. Monitor output that closely resembles the printed output. Most software now offers WYSIWYG options, like "print preview."

X

XModem A file transfer protocol for modems in which data is sent from the Internet to the PC without acknowledgment from the PC.

Y

YMMV E-mail and chat abbreviation for "your mileage may vary," indicating that your results may vary.

Z

zipped files Zipped files are files that are compressed and must be "unzipped" to be read. Zipped files download faster because they are smaller than an uncompressed equivalent.

TECHNOLOGY QUESTIONNAIRE

Name:	Subject:

Please use the following scale to describe your present level of skills in using the types of applications / software.

Skill Level	No knowledge regarding these skills / processes	Limited knowledge or abilities in using these skills / processes	Ability to apply basic use of these skills / processes	Ability to apply basic use and some advanced use of these skills / processes	Ability to apply skills / processes with a high level of proficiency. Can facilitate / teach the use of these skills / processes to others.
1. Effectively search the internet.					
2. How to evaluate websites.					
3. How to put together a directed lesson plan or web quest using the internet.					
4. Create standards based lessons.					
5. Integrate technology into your lesson plans.					

2. **Please answer Yes or No to indicate how you use one or more of the following types of technologies.**

Technologies	Used for administrative or class records management	Used to prepare instruction	Used to present instruction	Taught students to use	Required students to demonstrate proficiency
	Y/N	Y/N	Y/N	Y/N	Y/N
A. Internet or web-based materials					
B. Multimedia (scanners, digital cameras, CD-ROM)					

C. Software packages for word processing, spreadsheets, databases					
D. Teaching tools (grade book, etc)					
E. E-mail					
F. Additional software packages (presentation software, reference tools)					
G. Content specific software					
H. Other (List) _____ _____					

3. Approximately how many total hours of technology related professional development activities have you participate in?

None	1-5 hours	6-10 hours	11-20 hours	21-50 hours	More than 50 hours

4. I use the following types of technology to communicate:

Technology	Y/N
A. E-Mail	
B. List Servs	
C. World Wide Web / Internet	
D. Other (specify):	

5. I have applied technology in one or more of my classes in the following ways (please check Yes or No and list the classes, where used):

Activities	Y/N
A. Used the Web as an online resource for syllabi, lesson plans, and course materials	
List Class:	
B. Required students to use the Web to conduct research, including accessing documents and online bibliographic services	
List Class:	
C. Used presentation software and multimedia (including digital cameras and scanners) to make presentations and demonstrate learning activities	
List Class:	

D. Required students to use presentation software and multimedia (including use of digital cameras and creation of electronic presentations)	
List Class:	
E. Used videos of Model Technology Teachers to provide Best Practice Examples of how to integrate technology in classroom instruction	
List Class:	
F. Used interactive electronic tutorials to teach specific lessons or material	
List Class:	
G. Required students to use word processing for assignments	
List Class:	
H. Required students to use spreadsheets to tabulate data & produce graphs	
List Class:	

6. Overall, which of the following stages best describes your current level of technology adoption? Please choose one.

	1. Awareness: I am aware that technology exists but have not used it perhaps I'm even avoiding it. I am anxious about the prospect of using computers or other forms of technology in my classroom.
	2. Learning the process: I am currently trying to learn the basics. I am sometimes frustrated using computers/technology. I lack confidence when using computers or other forms of technology.
	3. Understanding and application of the process: I am beginning to understand the process of using technology and can think of specific tasks in which it might be useful.
	4. Familiarity and confidence: I am gaining a sense of confidence in using the computer or other forms of technology for specific tasks. I am starting to feel comfortable using technology.
	5. Adaptation to other contexts: I think about technology as a tool to help me and am no longer concerned about its use. I can use it in many applications to prepare for and involve students in instruction.
	6. Creative application to new contexts: I can apply what I know about technology in the classroom. I am able to use it as a tool to involve students in innovative ways. I frequently integrate technology into the way that I involve students in instruction.

Thank you for participating.