



**Instructional
Technology
Use Plan**

July 1999

Philosophy of Education

The Watertown Unified School District is committed to the educational development of each student. We believe that fulfilling this commitment will assist the individual student to participate in, and contribute to, our democratic society and thus preserve our cultural heritage.

To accomplish these purposes, the district offers an educational program, which provides for each student's development in the following areas:

- **Educational foundation:** skills, knowledge, and attitudes considered to be essential for all other learning.
- **Planning and problem solving:** skills, knowledge, and attitudes that help learners and utilize higher level thinking skills.
- **Interpersonal relationships:** skills, knowledge, and attitudes that help learners to interact constructively..
- **Physical health:** skills, knowledge, and attitudes that help learners develop healthy life styles.
- **Mental health:** skills, knowledge, and attitudes that help learners understand and express emotions to promote emotional well-being.
- **Cultural awareness:** skills, knowledge, and attitudes that help learners understand the ideas and cultures of others.
- **Career awareness:** skills, knowledge, and attitudes that prepare learners to be productive individuals.
- **Technology:** skills, knowledge, and attitudes that help learners to utilize technology as a tool for learning, work, and enjoyment.
- **Democratic principles:** attitudes and beliefs that guide the learner's actions in participating in a democratic society and contributing to constructive changes in society.
- **Life long learners:** skills, knowledge, and attitudes that help learners continue to learn throughout life and appreciate the creative arts.

Scope of Effort Stakeholder and Community Resources

Instructional Technology Committee of the Watertown Unified School District is charged with developing a technology use plan that provides a framework for integrating technology into the curriculum and instructional program. This instructional technology plan is designed to address the needs of teachers, students, and administration and community in support of teaching and learning throughout the school district.

The Watertown Unified School wishes to express its appreciation to the many people, both internal and external, who over the years have provided valuable contributions to the creation of this plan. This included individuals and organizations who worked in formal planning as members of the Instructional Technology Committee, professional staff who provided valuable input, and community residents who support, encourage, and demonstrate the effective use of technology.

This three year plan will be reviewed annually and updated as necessary in conjunction with all stakeholders. Reporting on the activities outlined in this plan will be made monthly to the Board of Education at their regular meeting under the Superintendent Report, to the faculty annually at designated faculty and inservice meetings, and to the general public through the local media.

Instructional Technology Instructional Technology Overview

Introduction:

The Watertown Unified School District Instructional Technology Plan is designed to provide the framework for effective use of technology in all aspects of the district's educational program. This plan, developed in cooperation with stakeholders throughout the school system, is based on the premise that technology provides many benefits to students, educators, parents, and community in the pursuit of learning. Central to the development of a quality technology plan are three key elements: an emphasis on student achievement, educational equity, and workforce readiness. The use of technology in the Watertown Unified School District is designed to address these elements.

District and Community Demographics:

The Watertown Unified School District is located approximately forty-five miles west of Milwaukee and forty miles east of Madison just North of Interstate 94. In the heart of the school district is the City of Watertown, with a population of approximately 22,000. The rural townships that comprise the rest of the school district include the townships of Clyman, Emmet, Lebanon, Lowell, Shields, Concord, Farmington, Ixonia, Milford, and Watertown. The Watertown Unified School District includes, Watertown High School, Riverside Middle School, Concord Elementary School, Douglas Elementary School, Lebanon Elementary School, Lincoln Elementary School, Schurz Elementary School, and Webster Elementary School.

The Watertown School District community has a solid, well-established economic base, which includes industrial manufacturing, small business development, retail sales, and agribusiness. The financial base of the school district is sound, supporting the needs of

students. Education is viewed by most residents as the single most important endeavor of the community, and the basis for future economic growth and quality of life.

The Watertown Unified School District is committed to providing a sound educational program that promotes life-long learning. A dedicated Board of Education, a faculty with strong academic credentials, and a caring and supportive community provide students with the opportunities and experiences necessary to take their place as productive citizens in a technological world. Students receive a strong educational foundation through a variety of academic, vocational, and humanities course offerings designed to serve the needs of students in a comprehensive educational program.

Overview of Technology Planning Process:

The Technology Planning Committee recognized that the process of technology planning involves far more than merely outlining technology needs, district priorities, and purchasing schedules. This plan is designed as a document that will provide a framework for sound decision-making, wise expenditure of resources, and a demonstration of effective teaching and learning.

The development of this technology plan involved the following realizations:

- The roles of teachers and students change in an educational environment where technology becomes an essential part of teaching and learning.
- The importance of regular and complete communications with all stockholders is necessary to secure support for the implementation of technology in education.
- Educators must understand both the benefits and limitations of teaching with technology.
- Technology is an integral part of teaching and learning, not an incidental frill.
- Student achievement must be measured by more than standardized tests. The skills that constitute academic accomplishments must include the thinking and problem solving skills that technology supports.
- Higher order thinking skills are critical to an educated modern-day worker, and the curriculum and instructional program must reflect the development of these skills.
- Training is an inescapable part of effective technology use by educators.
- When hiring new faculty, the school district must give consideration to professionals who have acquired technological literacy skills and can demonstrate those skills.
- As a school district we must provide ongoing support for technology use through adequate funding, access to technology resources, professional development, support personnel, and technology maintenance.

The Challenge:

Literacy today includes key skills necessary to effectively function in a society that grows more complex and competitive each day. The ability to use computers,

telecommunications, and other technologies to improve teaching, learning, and productivity is as important today as being highly proficient in the more traditional basic skills of reading, writing, and arithmetic.

Over the years, schools have been slow to embrace new tools and instructional practices. Education has traditionally been more reactive than proactive with regard to innovation and acceptance of new and better ideas. In a world where students not only compare and compete with neighbors, but with students around the globe, there is no luxury in waiting to fully utilize the potential technology offers. Instead schools must step forward and demonstrate the leadership necessary to ensure technological literacy.

Understanding and accepting the challenge to create a technology literate generation is the first step in preparing all children to tap the benefits of technology in their lives. As a school district, we must create conditions where students and staff utilize technology to enhance and expand learning by supporting the ways students learn, and by recognizing that keys to success include access to information and effective communications.

The challenge before the Watertown Unified School District is more than understanding how to create a vision for the use of technology. The vision provides direction, but the essence of our efforts lie in recognizing the revolution in accessing information and communicating ideas with each other. To achieve this we must acknowledge the task before us and address our commitment to it.

These tasks include:

- Improving student achievement and enhancing curriculum and instructional practices through access to information and improved communications.
- Advancing opportunities for student learning using technology as a seamless tool in the instructional process.
- Providing substantial training that will ensure all faculty are prepared to teach students how to learn, create, access information, communicate ideas, and solve problems using technology.
- Providing the resources for students and faculty to utilize technology to its full potential in teaching and learning.

Meeting the Challenge

In order to meet the challenge before us, we must be willing to invest what is necessary to guarantee that the power and potential of technology is realized. Many components directly add to the cost of bringing the Watertown Unified School District up-to-date in the use of technology. The most obvious costs are those related to computer hardware and software infrastructure; such as wiring, electrical supply; local area network development; connections between school buildings and

the world via the Internet; long-term support for ongoing professional development; and the maintenance of complex technology systems by trained and qualified systems experts.

There are also many less obvious “costs” associated with this effort. Some of these are seen in the time commitment it takes for districts and individuals to make the transition to a new way of “doing business”, the fear of new and complex technologies, and the frustration of charting new ground in using technology as a tool for learning. However, with a united front, a clear commitment, and enthusiastic educators and community all barriers can be overcome.

While some important steps have been taken in bringing technology to our school district, there remains much more to do before technology is fully integrated as a learning and teaching tool. It is now time for the Watertown Unified School District to take what we have learned about technology and fully apply it to all learning and work environments across the school district.

Conclusion

We must have the resolve necessary to ensure that all stakeholders understand and support the efforts to include technology in the Watertown Unified School District. As technology continues to advance, we must never waiver from our determination to ensure that students not only become technology literate, but that they have the advantages that technology provides for learning and quality of life. Not meeting this challenge will mean that students in the Watertown Unified School District will fall behind their counterparts in other communities, the rest of the nation, and ultimately the world. The future of our children, the future of our community, and the economic well being of our state and nation depends on us meeting this challenge.

Vision Statement

The Watertown Unified School District believes that technology offers unique and powerful learning opportunities for students and staff. While serving as an effective district management productivity tool, technology is also used as an instructional tool, for students and staff, to access, organize, and present information. Technology use will promote higher level thinking skills, personal creativity, communications, enhanced learning, and responsible independent decision-making.

To be successful in a technological society, students, teachers, and administrative staff need to develop competency in the use, application and employment of technology. The district envisions empowering every student, teacher, support staff, and administrator by providing access to appropriate technology.

Mission Statement

It is the mission of the Watertown Unified School District to effectively utilize instructional technology to support the Philosophy of Education and to address the three key elements in technology use: improving student achievement, providing educational equity, and workforce readiness.

Key Issues

While much has been accomplished in the way in which technology has been implemented as a tool for teaching and learning in the Watertown Unified School District, much more remains to be done. The following issues remain to be resolved for technology to truly become an integral part of the educational program benefiting teaching and learning.

- Five out of eight district schools lack infrastructure networks capable of linking all students and teachers to essential learning, research, and teaching tools.
- Use of instructional technology requires support personnel in technology maintenance and curriculum/instruction integration throughout the Watertown Unified School District. Currently staffing levels do not meet existing or projected needs.
- Support for the implementation of technology requires thorough communication with students, parents, staff, administration, Board of Education, business, and community regarding the value of instructional technology.
- Ongoing funding must be maintained for the successful implementation and use of technology in the Watertown Unified School District.
- There is a need to address the ways technology can be used to support teaching and learning for all students at the primary grade levels (K - 3).

- Acquiring specific assistive technology is needed for instruction of children with disabilities.
- Tools to evaluate the effectiveness of technology instruction in meeting the goals of equity, workforce readiness, and student achievement must be developed.
- Distance learning remains an important tool in education in the future.
- Internet access and the use of filtering software should be conducted in such a way as to balance the student's need for information and protection.
- The Board of Education should utilize technology to conduct their business, as well as to better understand the value of technology to teaching, learning, and management.
- The upgrade and replacement of obsolete technology must become an important priority in an on-going implementation of technology.
- There continues to be a lack of consistency in the way keyboarding is taught as a critical technology skill in grades 3 - 5 in the Watertown Unified School District.

Key Assumptions

The following are key assumptions that establish the foundation on which decision-making relating to the implementation of technology in the Watertown Unified School District will be based:

- Technology, when used well, has the capability to improve the quality of teaching and learning in the Watertown Unified School District.
- Students must be technologically literate in order to effectively function in society, at work now and in the future, and to maximize future learning.
- Development of a comprehensive infrastructure capable of supporting student, teacher, support staff, and administrative applications is necessary for successful implementation of technology.

- Access to technology resources across all grade levels and all schools must be provided in order to ensure equity throughout the school system.
- The effective integration of technology in the Watertown Unified School District depends on a well-trained staff capable of utilizing technology to enhance teaching and learning.
- Comprehensive staff development must be ongoing in the Watertown Unified School District to ensure all faculty and staff have the technology skills necessary to carry out their job responsibilities most effectively.
- Adequate numbers of support personnel and ongoing maintenance is necessary for the long-term success of technology integration in all aspects of the Watertown Unified School District.
- Decisions regarding the purchase and implementation of technology, made through the individual sites/or technology committees, must fall within the scope of the Instructional Technology Use Plan.
- Ongoing financial support by the school district and community is essential for the successful implementation of technology.
- Frequent justification and demonstration of the technology use in education is essential for ongoing support.

Current Status

The Watertown Unified School District has implemented a number of technology resources in previous years designed to support teaching, learning, and management functions. The following is a summary of technology resources throughout the district.

1. Software: The Watertown Unified School District purchases the following titles on a K – 12 basis for use in classrooms and offices. A number of other titles specific to a grade level or subject area are purchased, installed, and maintained at each building or through specific program areas:

- a. Dynix Library Automation System – A union catalog serving all district schools.
- b. Microsoft Office – A management/productivity software package for use by faculty and office staff.
- c. Microsoft Works – A management/productivity software package for use by students and teachers.
- d. Writers Helper – A specific software that supports writing across the curriculum.
- e. Eudora Lite – An internet e-mail communications package.
- f. Netscape – An internet browser to support on-line research.
- g. FileMaker Pro – A database package for mainly office use.
- h. Adobe Acrobat Reader – A resource tool for viewing PDF files.

2. Hardware: An updated inventory of hardware is scheduled as a result of this Technology Plan. Currently hardware resources include the following:

- a. Macintosh PowerMac Computers – Approximately 500 machines are distributed throughout the district in classrooms, as teacher workstations, and in computer labs.
- b. PC – There are roughly 100 Pentium PC machines mainly at Watertown High School distributed in three business education and technology education classrooms.
- c. Desktop/Teacher Workstations – Faculty receive a desktop computer as they receive training through either level #1 or level #2 inservices. Approximately 90% of district faculty have workstations.
- d. Labs – Each school building (8) have a minimum of one computer lab utilizing Power Macintosh or PC Pentium computers.
- e. Laptop Computers – Approximately 15 laptop computers are distributed throughout the district.
- f. Peripheral Devices – A number of peripheral devices such as digital cameras, scanners, video editing equipment, laser disk players, TV's, video projectors, etc. are found in all school buildings.

3. Staffing: The following positions directly support technology integration in the Watertown Unified School District.

- a. Instructional Technology Committee – provide on going support and direction for technology integration.
- b. Director of Curriculum and Instruction – responsible for direct implementation/integration of instructional technology across the district, as well as providing professional development.
- c. Supervisor of Computer Support system – full time position designed to support the design and implementation of district network design.

- d. Computer Technicians (2) – full time positions responsible for technical support, repair, and installation
- e. Applied Science/Math Technology Center Instructor – full time position that oversees the use of the AS/MTC, a high tech center located at Watertown High School, which is utilized by community residents, faculty, and students.

4. Operations and Maintenance: Currently all operations, network design, and maintenance are budgeted through the office of the Supervisor for Somputer Support Systems. Annually all computers are maintained through a summer cleaning and upgrade/repair process. In addition, on-going maintenance and installation of equipment is handled by the two technicians working throughout the school district.

5. Network Design: The Watertown Unified School District has prepared a comprehensive network design plan through the computer support office and the business services office. An application for a TEACH loan to upgrade the WAN has been received and network implementation is scheduled to begin in June 1999 on three remaining elementary schools.

The following pages outline the current Wide Area Network.

Labs:

Webster School

- a. 24 computers – Main Lab (Macintosh new 8/99)
- b. 12 computers – Primary lab
- c. 4 computers – Library (Macintosh and PC new 9/99)

Schurz School

- a. 24 computers – Main Lab (Macintosh new 8/99)
- b. 4 computers – Library (Macintosh and PC new 9/99)

Lincoln School

- a. 24 computers – Main Lab (Macintosh new 8/99)
- b. 4 computers – Library (Macintosh and PC new 9/99)

Douglas School

- a. 24 computers – Main Lab (Macintosh new Fall 98)
- b. 4 computers – Library Macintosh and PC upgrade 9/99)

Concord School

- a. 10 computers – Main Lab (Macintosh new Fall 98)
- b. 2 computers – Library (Macintosh and PC new 9/99)

Lebanon School

- a. 10 computers – Main lab (Macintosh new Fall 98)
- b. 2 computers – Library (Macintosh and PC upgrade 9/99)

RMS

- a. 30 computers – Computer Lab (Macintosh upgraded Fall 98)
- b. 20 computers – Library Lab (Macintosh upgraded 1997)
- c. 4 computers – Library (Macintosh and PC upgrade 9/99)
- d. 6 computers – Tech Ed.

WHS

- a. 24 computers, PC – S109 Business Education Lab (PC new Fall 98)
- b. 24 computers, Mac 6100 – S149 Keyboarding Lab (1996)
- c. 24 computers – Library Writing Lab
- d. 18 computers - Programming Lab (S136)
- e. 24 computers - CAD/CAM Lab (PC new Fall 98)
- f. 12 computers, Apple/Mac – Music Lab
- g. 12 computers, PC – Library (PC new Fall 98)
- h. 24 computers, PC – Career Lab (PC new Fall 98)
- i. 28 computers, PC/Mac – AS/MTC (Macintosh and PC new 1998)

Technology Support
Watertown Unified School District

Director of
Business Services

Director of
Curriculum and Instruction

Technology Committee

Supervisor of Computer
Support Systems
Greg Gutkowski

Bill Bentz
Computer
Technician

Tom Meitner
Computer
Technician

Building Level Instructional Support Personnel	
Concord	TBA
Douglas	TBA
Lebanon	TBA
Lincoln	TBA
Schurz	TBA
Webster	TBA
Riverside Middle School	TBA
Watertown High School	Bob Logan

Collaborative Working Relationship

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Technology Standards

The use of technology in the Watertown Unified School District is designed to support effective teaching and greater student learning. In utilizing technology across the district, faculty and students will work toward meeting the following academic standards in technology.

Media and Technology

Students in Wisconsin/Watertown Unified School District will use media and technology to access and communicate information, evaluate technology tools, make informed decisions, solve problems, and construct new knowledge, products, and systems.

Information and Inquiry

Students in Wisconsin/Watertown Unified School District will access, evaluate, and apply information efficiently and effectively from a variety of sources in print, multimedia, and electronic formats to meet personal and instructional needs.

Independent Learning

Students in Wisconsin/Watertown Unified School District will apply technological and information skills to issues of personal and academic interest by actively and independently seeking information, demonstrating critical and discriminating reading, listening, and viewing habits, and striving for personal excellence in learning and career pursuits.

The Learning Community

Students in Wisconsin/Watertown Unified School District will demonstrate the ability to work collaboratively in teams or groups, use information and technology in a responsible manner, respect intellectual property rights, and recognize the importance of information, intellectual freedom, and an informed citizenry to a democratic society.

Scope and Sequence

Listed below are the *Expectations for Students/Learners*. These are the key elements that are expected of students in their use of technology as a learning and productivity tool. These goals are the foundation, skills, and knowledge that will be necessary for students to effectively use technology as a tool for learning, communicating, and accessing information. They are divided in two parts:

“Understanding Goals” what we want students to know and understand about technology and, *“Performance Goals”* how we want students to use that knowledge. It is expected that students will be given information that will provide them with opportunities to learn both the Understanding and Performance Goals.

Key: Grade Levels K - 2, 3 - 5, 6 - 8, & 9 - 12 Sp: Spell Checker
 TH: Thesaurus

Understanding Goals

Performance Goals

Word Processor/Writing Tools:

6-12	To understand how electronic writing tools change the nature of the writing act. (prewriting, composing, collaborating, revising, editing, and publishing)	K-12	To create and modify text according to purpose and audience.
3-12	To understand how to use the electronic writing tools effectively for formal and informal writing, public and private writing.	3-12 3-12 3-12 6-12	To use the cut, copy, and paste features for revising. <ul style="list-style-type: none"> • within a document • from one document to another of the same kind • from one kind of document to a different kind.
6-12	To know the many forms of electronic publishing well enough to choose the appropriate tool for the purpose and audience.	SC-2-12 TH-3-12 6-12	To use writing tools, such as spell checker, Thesaurus, Find, and Replace in editing.
6-12	To recognize which parts of the writing act are best served by the computer and which are best accomplished off the computer.	3-12	To use template files in time saving and productive ways.
		6-12	To create template files in time saving and productive ways.
		6-12	To use electronic prewriting and revising tools.
		6-12	To use the shortcut buttons and wizards.

		9-12	To use citation functions.
	Groupware:		
6-12	To understand the impact of electronic communication tools on changing literacy.	6-12	To exchange files electronically.
6-12	To use computers as the focus for collaboration among writers.	6-12	To use electronic communication tools on Local and Wide Area Networks. (E- mail, Bulletin Board, Conference and Groupware tools)
	Graphics and Paint Tools:		
6-12	To understand the difference between the draw and paint environment.	K-12	To use paint and draw tools for creative expression.
6-12	To know the tools well enough to choose the appropriate ones. (Word Processing, Draw, Paint, - for each communicative act)	2-12	To use text and graphics together for desktop publishing.
3-12	To understand the impact of electronic draw and paint tools in art creation.	6-12	To make graphics behave as text, and text as graphics.
		3-12	To cut, insert, and paste graphics and paint selections into word processing, database or spreadsheet programs.
		3-12	To import and edit clip art.
		6-12	To create clipart files.
		6-12	To import word processing files into draw and paint programs.
	Telecommunications Tools:		
6-12	To understand that telecommunications provides authors/ artists real audiences and purposes for authentic communications.	4-12	To access the Internet with appropriate software and protocols for remote access to a variety of servers. (E- mail, World Wide Web, Gopher, FTP, etc.)
5-12	To understand that telecommunications provides a rich global resource for	6-12	To use all the communication functions of the LAN.

	learning.		
		4-12	To use terminal communications software to access the Internet and other telecommunications networks. To edit settings, create stationary directory files, etc.
		4-12	To use E-mail. Send and receive messages, prepare a message off-line on a word processor in a text format and upload it on-line, compose a message or to reply to a message on-line, save a message and open it into a word processor.
4-12	To understand the ethics and etiquette of responsible participation on Internet.	4-12	To use Netscape to browse the World Wide Web. (bookmarks, keyword searches, download files, etc.)
		9-12	To create a home page on the World Wide Web.
		4-12	To use telecommunications to access timely information sources, simulations, group projects, real world authorities, and other resources.
		9-12	To participate responsibly in an existing telecommunication project.
		9-12	To develop, plan, post, and direct a telecommunication project on a national or international educational network. Design and produce a personal home page.
		4-12	To use the Internet in a responsible and ethical way.

	Hypermedia/Multimedia Tools:		
4-12	To understand that hypermedia is a tool for authoring and researching.	6-12	To create hypermedia programs for specific audiences and purposes, including WWW home pages.
		K-12	To read and appreciate hypermedia books.
		6-12	To use text appropriately and creatively in a hypermedia program.
K-12	To understand how hypermedia tools expand the nature of reading and writing.	6-12	To import text from a word processing into a hypermedia project.
4-12	To know when hypermedia is the appropriate vehicle for authoring.	6-12	To convert written text to spoken text.
		6-12	To create graphics in a multimedia program.
		6-12	To import graphics from other software programs, including CD- ROM programs.
		6-12	To scan in graphics and picture images.
		6-12	To record voice for narration, to add music and sound to presentations.
		6-12	To import full motion video segments from laser disks, CD- ROM, cable television, camcorders, and other sources.
		6-12	To output multimedia presentations to videotapes and other media.
		3-12	To effectively use content related multimedia programs, encyclopedias, interactive stories on a disk, and other hypermedia information resources for

			research and exploration.
	Database Tools:		
6-12	To appreciate the speed of informational retrieval using the electronic search engines.	6-12	To design databases with fields for information gathering that are appropriate to specific tasks and purposes. Determine data items to use in a field and the type of information that goes into each field based on the kinds of searches to be conducted.
6-12	To understand the Boolean operators (and, or not) in searching.	6-12	To test the appropriateness of a database design for a given purpose and edit it.
6-12	To understand the need for surfing and focus on researching as legitimate informational gathering techniques.	6-12	To set up and conduct searches that convert the raw data contained in records into knowledge and understanding.
3-12	To understand the magnitude of electronic information resources.	6-12	To manipulate databases for comparing/contrasting, analyzing, evaluating, predicting, determining cause/effect, showing relationships, and hypothesizing.
6-12	To understand when electronic resources are more appropriate than traditional resources and vice versa.	6-12	To use databases as a notetaking aid. How to enter research information for organizational purposes.
6-12	To understand when creating a database is an appropriate problem solving tool.	6-12	To design layouts for records based on which fields will be reported out, how much space will be required, the purpose and/or audience for the report.
6-12	To determine the validity of data.	6-12	To create reports that merge graphics, word processing text, and information from databases.

		6-12	To locate, access, and manipulate data from large information retrieval systems.
		6-12	To match types of information needed with appropriate sources of information.
		6-12	To conduct keyword searches using the and/or/not connectors.
		6-12	To pose problems that are better solved by an electronic database than by other information tools.
	Spreadsheet Tools:		
2-12	To understand that the spreadsheet is a tool to organize and manipulate numerical data.	3-12	To create a spreadsheet with appropriate rows and columns and enter mathematical and logical formulas.
2-12	To understand that a spreadsheet is a tool that can be used as a table.	6-12	To test the accuracy of formulas entered and edited appropriately.
6-12	To understand when the spreadsheet is an effective tool for problem solving.	3-12	To use spreadsheet tools to represent and solve a variety of problems in math and science.
6-12	To understand the logic of the if/then structure.	6-12	To present the spreadsheet data in appropriate graphs and charts, which emphasize the patterns of information and support the conclusions to be drawn from the information.
6-12	To understand how graphical representation of statistics can be used to mislead an audience.	6-12	To represent data appropriately for an intended audience.
3-12	To understand what kind of graph is appropriate for given data.	2-12	To use a spreadsheet to organize data into a table.
		6-12	To evaluate the emotional

			impact of graph design and labeling.
		6-12	To determine which problems are better solved by a database and which are better solved by a spreadsheet.
	Integrated Tools:		
6-12	To understand how the WP/DB/SS/draw/paint applications can be used together in various combinations to perform integrated tasks.	6-12	To use integrated tools in cross-curricular study.
6-12	To understand that integrated tools are a good vehicle for cross-curricular study.	6-12	To create reports that combine graphics, word processed text, information from databases, and spreadsheets.
		6-12	To use mail merge to personalize communication.
		6-12	To use the programming capabilities built into applications to customize the software. (i.e., macros, toolbar, menus)
	Basic Skills:		
6-12	To develop an efficient file management system for ease of retrieval.	K-12	Power up and down.
6-12	To use translators to open files in different formats for different tools and on different platforms.	3-12	Distinguish among storage media.
		6-12	Understand the differences among memory types (RAM, ROM, Storage).
		K-12	Launch an application.
		3-12	Format a disk.
		3-12	Delete, copy, and print a file.
		K-12	Save and Save As.
		2-12	Cut, copy, and paste.

		K-12	Operate a mouse.
		6-12	Load paper in a printer and fix a paper jam.
		6-12	Use the print monitor.
		6-12	Connect cables.
		3-12	Use a modem.
		3-12	Use a scanner.
		3-12	Use a digital camera.
		6-12	Use a video disc.
		3-12	Use an audio CD.
		3-12	Record and play back a sound.
		6-12	Convert file formats.
		6-12	Use a camcorder
		6-12	Uses external sensors.
		6-12	Use the midi.
		6-12	Set up a personal file system.
		6-12	Set up and use shared folders.
		3-12	Access and use the LAN, WAN, and Internet.

Technology Goals

It is recommended that the Watertown Unified School Districts will:

Teaching and Learning Using Technology: Provide a comprehensive scope and sequence of knowledge and skills so every student can experience a consistent and progressive course of education using technology.

1. Students will utilize instructional technology to provide for individual differences in learning styles, the constructivist approach to learning, and greater access to information and learning resources.
2. Faculty will utilize technology to increase personal productivity, develop curriculum and instructional practices, communication, and access to information.
3. Basic technology skills necessary to effectively and efficiently utilize technology for learning will be taught by all faculty in appropriate steps as outlined in this plan.
4. Student and faculty proficiency will be evaluated as outlined in this Technology Use Plan.
5. By 1999 - 2000 basic keyboarding instruction will occur for all students in grades 3, with reinforcement in grades 4 & 5 and comprehensive keyboarding instruction for all students in grades 6 & 7, with follow-up options available in high school.

Curriculum Integration: Integrate technology into the district's instructional programs.

1. All curricular areas will incorporate the use of technology as appropriate to support and enhance teaching and learning. Examples demonstrating effective use will be required of all professional staff.
2. The use of instructional technology will be incorporated as part of curriculum revisions on a K - 12 basis.
3. Faculty and staff will utilize the benefits of technology to teach academic content standards in each subject area, as well as technology literacy standards, in K - 12 instructional programs.

Staff Development: Encourage and support on-going professional development with an awareness of the changing roles of teachers and learners.

1. By December 1999, complete a comprehensive staff development plan for technology integration that makes available training for all district faculty and staff.
2. By July 2000 faculty and staff will participate in the in-depth training called "Training for Technology Integration" (Level #1).

3. By 2001-2002 all district faculty will be trained to utilize technology to improve student writing by providing training for 100+ faculty members.
4. By the year 1999 – 2000 provide on going access to professional development in the use of communication tools and the Internet to support teaching and learning K – 12.
5. By the year 2001 – 2002 develop and implement comprehensive course offerings for professional development in the use of technology to support the areas of math, science, and social studies.

Equity: Provide each school site with access to high quality instructional technology that will provide teaching and learning opportunities for all students and faculty.

1. By the year 1999 – 2000 all district schools will have access to modern computer labs.
2. By the year 2000 – 2001 all certified faculty members will have a desktop computer available at their workstation for professional use provided through district professional development.
3. By the year 2001 – 2002 all district English classrooms and classrooms in grades 3 – 5 will have a mini-labs of 4 to 6 computers.
4. By the year 2002 – 2003 district faculty will have the opportunity to apply for mini-labs of 4 to 6 computers to support integration of technology to support curriculum, instruction and learning.
5. Beginning in the year 1999 – 2000 an on-going replacement schedule for labs, offices, etc. will be implemented throughout the Watertown Unified School District.

Personnel Support: Provide personnel that have a comprehensive understanding of technical support and curriculum/instruction integration, and who will adequately implement and maintain technology in all aspects of the educational program.

1. Technical support personnel necessary to effectively implement and maintain networks, hardware, and software will be provided at the following levels.
 - a. Watertown High School – 1 FTE
 - b. Riverside Middle School – 1 FTE
 - c. Elementary – 2 FTE
2. Instructional technology integration personnel necessary to support the integration of technology into teaching and learning will be provided at the following levels.
 - a. Watertown High School – 1 FTE
 - b. Riverside Middle School – 1 FTE
 - c. Elementary – 2 FTE

Consistent and Adequate Funding: Provide consistent and adequate funding necessary to effectively implement technology throughout the school district as outlined in the Instructional Technology Plan.

1. The district instructional technology budget will reflect an annual expenditure of 2-3% of the total district revenues for the acquisition, implementation, and effective use of technology.
2. Program, building, and department budgets will reflect an annual commitment of at least 5% for technology integration and support of teaching and learning.

3. The annual maintenance budget for technology will increase to 1-1/2% of district total revenues.

Infrastructure: Establish and maintain an efficient and high speed infrastructure to connect classrooms and district buildings to the world in an equitable, timely manner.

1. By the beginning of the 1999 - 2000 school year the Watertown Unified School District will have operational a high speed WAN utilizing T-1 lines for voice and data transmission connecting all schools in the City of Watertown, and dial-up service for Concord and Lebanon Schools.
2. By the beginning of the 2000 - 2001 school year all buildings will have operational local area networks capable of handling high speed voice and data.
3. Administrative and management functions will be completed using electronic resources whenever possible.

Staff Development

The key to the success of the Watertown Unified School District's Technology Plan is to make sure that staff members are competent in using computers and other related technologies, and are prepared to support the district's vision for the use of technology. Therefore, it is essential to provide faculty and staff with the necessary training to utilize technology to its fullest potential for teaching, learning, and productivity.

Professional preparation will consist of *two major elements*:

1. *Training*, which involves learning the generic hardware and software tools necessary to support student use of technology, as well as using technology for their own professional tasks.
2. *Professional development*, which will address the effective use of technology tools in teaching and learning. By providing opportunities in which teachers learn together, and share what they have learned with each other, they will develop personal confidence in new technologies and encourage each other to explore and experiment with new instructional techniques made possible through technology.

Guidelines for Training and Staff Development

1. Training and professional development should support different teaching and learning styles, along with different curricular/instructional needs.
2. Training and professional development should include examples of lessons using technology.
3. Training and professional development should accompany access to technology. Faculty must have computers and related technologies to practice and utilize what they have learned to improve instruction and student learning.
4. Training and professional development should be well defined with specific goals.
5. Training and professional development should be individualized to the extent possible to meet the needs of faculty.
6. Training and professional development should be ongoing to ensure faculty continually learn about new technologies, new practices, and to support the access to information and enhance communications.

Formats for Training and Staff Development

When delivering training and staff development, a variety of formats should be used to accommodate the needs of staff. They include:

1. Courses for graduate credit in the district.
2. Courses for undergraduate credit as necessary.
3. Courses/workshops for district service credit.
4. Non-credit courses/workshops designed for the integration of technology.
5. Workshops targeted for a subject area/grade level.

Times for Training and Staff Development

Professional development should provide flexibility to accommodate teachers schedules, including summers, evenings, weekends, release time, and after school sessions.

Providers of Training and Staff Development

1. **District Trainers:** Many faculty members have developed specific skills and knowledge in the integration of technology in teaching and others can utilize learning that. By tapping into the expertise and skills of our own faculty and staff we not only

recognize the efforts and accomplishments of district faculty and staff, but also benefit from their knowledge of the curriculum and instructional programs and how technology integration can be achieved.

2. **Students:** Students with computer expertise or who participate in certain existing school programs could help teachers in all buildings. Some program ideas include:
 - a. High School students in independent study courses.
 - b. Middle school students using the peer helpers model.
 - c. Student clubs (Internet trouble shooters and sysop assistants)
 - d. Students paired with teachers for specific training.

3. **Contracted Services:**
 - a. Teachers/district staff - after school hours
 - b. University/College courses
 - c. Specialized workshops
 - d. Specialized consultants/trainers

4. **Teacher Shared Learning:**
 - a. Technology Academy
 - b. Internet Training
 - c. Specific software or hardware application workshops

Current Training and Professional Development Offerings

• **Level # 1 - Training for Technology Integration:** This program provides a faculty and staff with training in the use of basic applications that students will be using in the classroom, including productivity software (Microsoft Works 4.0), telecommunications, multimedia, and other appropriate technology applications. It focuses on how to integrate software and hardware into classroom instruction. This training identifies how and where technology can support teaching and learning. In addition, participants explore software and other applications that are specific to their professional assignment. They share with their colleagues, materials that may be used in classrooms and instructional programs across the district. A total of 49 hours of instruction is provided.

• **Level # 2 - Technology to Support Curriculum:**

a. *Writing* - This training is designed to support writing across the curriculum. Participants learn how to manage their classroom using technology for writing, along

with software and instructional strategies to support writing. A minimum of 21 hours of instruction is provided.

b. Mathematics –

c. Science –

d. Social Studies –

- **Mini-Courses/Summer Technology Academy:**

The following courses are provided through the school year in after school sessions, early release day professional development, district staff development day sectionals, or the summer technology academy.

- **Internet Research and Communications:** Using the internet for teaching and learning.
- **Assistive Technology:** Using various technologies to support people with disabilities.
- **Grading/Management Applications:** Using software to manage grades, etc.
- **Network Basics:** Using network infrastructure for teaching and learning.
- **Productivity Software Applications** (word processing, spreadsheets, databases, e-mail)
- **Desktop Publishing:** Learning to construct communications with specific software.
- **Using Peripheral Devices:** Using devices to enhance the potential of technology.

Assessing Technology Use in the Watertown Unified School District

An important component of the Instructional Technology Plan is the development of benchmarks. Benchmarks are a point of reference against which future measures may be compared. Examples of benchmarks include the results of student learning, staff competencies and resource availability. Benchmarks assist organizations in comparing their practices to standards of excellence in a systematic way.

In a plan such as this, which asks for a significant commitment of the districts' resources, we must consider ways to measure results. Three comprehensive surveys will be conducted. These will form the basis for future recommendations outlined in this Technology Use Plan.

Technology Maturity Model (TMM)

The Technology Maturity Model Survey will be completed by the Instructional Technology Committee, the Board of Education, district administrators, and faculty at each site. The primary purpose for the survey is to determine how technological resources are used and the level of support systems found for technology use in the district.

The Technology Maturity Model Survey is composed of two parts: Resource Benchmarks and Behavioral Benchmarks. The benchmarks include criteria that assess specific aspects of the district's instructional technology program. Each criterion has four gradients: Emergent (lowest), Islands (minimal), Integrated (good), and Intelligent (best).

The four stages of technology use are:

The *Emergent Systems* stage as characterized by:

- ◆ Lack of formal support when using computing technology for instruction.
- ◆ No formal plans, policies or procedures exist to ensure the efficient and appropriate acquisition or use of technology throughout the district.
- ◆ Computers are used sporadically throughout the district.
- ◆ District-wide coordination to ensure grade-level access is absent.
- ◆ Formal support for teacher training is minimal.

The *Islands of Technology* stage as characterized by:

- ◆ Regular use of computers at one or more grade levels at each school in the District/site on a regularly scheduled basis.
- ◆ Formal plans, policies and procedures exist to facilitate the optimal use of technology in both instructional and administrative areas throughout the District/site and school level.
- ◆ District/site sponsored and school sponsored training is available.
- ◆ Technology has budgetary visibility at the District/site and school level.
- ◆ The instructional delivery system is somewhat dependent upon technology

The *Integrated Systems* stage as characterized by:

- ◆ Regular planned access for students to technology as a means of instruction and an object of instruction.
- ◆ Teachers' systems also support administrative functions, such as grading, attendance, and electronic mail.
- ◆ Technology has a high budgetary visibility at the District/site and school level.

- ◆ Comprehensive plans, policies and procedures for instructional and administrative use of technology are reviewed and revised regularly.
- ◆ The District and schools are advocates of technology training for all personnel.
- ◆ The instructional delivery system is very dependent on technology.

The *Intelligent Systems* stage as characterized by:

- ◆ Students access to technology as an indispensable component of instruction.
- ◆ Every curriculum is augmented by intelligent learning systems.
- ◆ Administrative functions are automated, integrated and paperless.
- ◆ Students, teachers, and parents have access to appropriate systems from home.
- ◆ Technology is one of the three highest expenditures of District/site funds.
- ◆ Technology planning is an integral part of District/site planning.
- ◆ The systematic adoption of technologies is ongoing.
- ◆ Technology advocates at each school assist in the introduction of these new technologies.
- ◆ Personnel are well trained and knowledgeable in the use of technology.

Technology Maturity Model Survey

The technology maturity benchmarks are based on criteria identified in the Technology Maturity Model and the stages of technology. The purpose for these benchmarks is to link the technology resources to their use in every learning environment. In this way the existing level of support for students, teachers and classified employees can be determined. The premise is founded on the theory that both the availability of technology resources, and behavioral changes by educators and students, are required to improve education.

The Instructional Technology Committee believes it is not sufficient to just acquire technology with the hope it will become used as an essential part of a student's learning environment. But it is necessary to integrate technology in ways that improve learning. The district, with these benchmarks, will be able to assess the progress toward technological maturity over time.

Teacher Needs Assessment Survey

The Teacher Needs Assessment Survey is composed of four sections: 1) Technology Background, 2) Technology Utilization, 3) Student Centered Technology, and 4) Staff Development Activities. Teachers across the district will be asked to complete the survey as a means of gathering data relating to the impact of technology and to assist in the development of professional development programs, acquiring technology resources, and future decision-making.

School Technology Resource Survey

The School Technology Resource Survey audited the technology resources, such as computers, printers, modems, phones, TVs, etc. at each school. This data serves as a

basis for ensuring that adequate resources are available to accomplish the goals and projects outlined in the Instructional Technology Plan.

Personal Assessment of Technology Use

Another important part of assessing the use of technology is to address its use with each professional staff member.

What does a teacher, effectively using computer technology, do in his or her professional duties? How does an expert user of technology differ from a beginning user? What evidence convinces us and the community that we are doing a good job with technology in the classroom? What criteria do we apply as we evaluate our efforts as a staff? These are some of the questions that we face as we move toward our district goals of integrating technology into teaching and learning.

This information is provided for faculty and staff to assess their own level of professional use of technology, training, and integration. From this it is hoped that faculty and staff will be able to determine steps to assist themselves in further developing the skills and knowledge needed to utilize technology as a professional and instructional tool.

Several factors, in this design that should be considered include:

- Not all teachers have the same access to technology resources, and therefore, the playing field is not level.
- Teachers' effective use of technology will reflect their differing teaching responsibilities. Effective use for a special education teacher, a physical education teacher, a first grade teacher, an English teacher, or a math teacher will all be different. The language of the rubrics, therefore, should be generic

enough to apply to all teachers, even though the specifics of computer use are different.

- Each rubric should have examples attached to it, so that the different levels of performance are clearly understood by all teachers and administrators.

Assessing Staff Proficiency Training and Staff Development

Level 1 - Participates in school required technology related inservices.

Level 2 - Demonstrates willingness to learn select technologies.

Level 3 - Takes responsibility to update technology skills to accommodate new developments in technology.

Level 4 - Takes responsibility to constantly update skills to accommodate new developments in technology, and to learn new strategies for integrating technology into teaching and learning.

Level 5 - Assumes a leadership role in formally and informally assisting other staff members to update skills and integrate technology into teaching and learning.

Technology for Professional Use

Level 1 - Only uses the technology required by the school or school district.

Level 2 - Rarely uses technology beyond that required by the school or school district for professional purposes.

Level 3 - Uses technology occasionally to perform professional tasks.

Level 4 - Uses technology routinely and efficiently to perform professional tasks formerly done without computers (electronic gradebooks, desktop publishing of classroom materials, electronic presentation tools, etc.)

Level 5 - Demonstrates highly innovative use of technology in performing professional tasks that are uniquely made possible with computers (mail merged letters, student progress, using Internet for research, etc.)

Integrating Technology into the Classroom

Level 1 - Uses technology only as a special event.

Level 2 - Engages students in using technology for tasks that are peripheral to accessing information, thinking and problem solving, and/or communicating, publishing, and presenting knowledge.

Level 3 - Engages students in using at least one computer application for the purpose of accessing information thinking and problem solving, and/or communicating, publishing, and presenting knowledge.

Level 4 - Engages students in using many and varied technology applications for the purpose of accessing information, thinking and problem solving, and/or communicating, publishing, and presenting knowledge. Creates materials for all students to use in the accomplishment of computer tasks.

Level 5 - Structures a highly integrated technology classroom environment that encourages and expects students to routinely choose appropriate technology tools to accomplish learning tasks. Provides the support materials necessary for students to make choices and become independent users.

	Training and Staff Development	Technology for Professional Use	Integrating Computers into the Classroom
Level 1	Participates in school required technology related inservices.	Uses only the technology required by the school or school district.	Uses technology as a special event.
Level 2	Demonstrates willingness to learn select technologies.	Rarely uses technology beyond that required by the school or school district for professional purposes.	Engages students in using technology for tasks that are peripheral to accessing information, thinking and problem solving, and/or communicating, publishing, and presenting knowledge.
Level 3	Takes responsibility to update technology skills to accommodate new developments in technology.	Uses technology occasionally to perform professional tasks.	Engages students in using at least one computer application for the purpose of accessing information, thinking and problem solving, and/or communicating, publishing, and presenting knowledge.
Level 4	Takes responsibility to constantly update technology skills to accommodate new developments in technology, and to learn new strategies for integrating technology into teaching and learning.	Uses technology routinely and efficiently to perform professional tasks formerly done without computers (electronic gradebooks, desktop publishing of classroom materials, electronic presentation tools, etc.)	Engages students in using many and varied technology applications for the purpose of accessing information, thinking and problem solving, and/or communicating, publishing, and presenting knowledge. Creates materials for all students to use in the accomplishment of computer tasks.
Level 5	Assumes a leadership role in formally and informally assisting other staff members to update technology skills and integrate technology into teaching and learning.	Demonstrates highly innovative use of technology in performing professional tasks that are uniquely made possible with computers (mail merged letters, student databases and spreadsheets for analyzing and reporting student progress, using Internet for research, etc.)	Structures a highly integrated technology classroom environment that encourages and expects students to routinely choose appropriate technology tools to accomplish learning tasks. Provides the support materials necessary for students to make choices and become independent users.

Projects

The following projects are developed to support the implementation and integration of instructional technology in teaching and learning across the school district. They will be used for purposes of projecting needed funding to support the effective and efficient integration of technology throughout the Watertown Unified School District, and to meet the goals outlined in this plan.

Project # 1: Data Collection and Interpretation

Technology Needs Assessment

Description: The Watertown Unified School District will complete the Technology Needs Assessment survey by selected personnel. This will be done as a means of gathering data on the use of technology, the type and quantity of technology needed to effectively impact teaching and learning, and to determine the level of staff development necessary to implement technology across the district.

Impact: This survey will assist the Instructional Technology Committee in planning professional development programs to support the effective use of instructional technology for teaching and learning, as well as for management of information and communications.

Steps/Activities: The Instructional Technology Committee will survey all professional staff to determine specific needs for professional development.

Timeline: First semester of the 1999 – 2000 school year.

Budget: One day of clerical time to compile survey results.

Technology Hardware Survey

Description: The Watertown Unified School District will complete a hardware resource survey with selected personnel in the district to assess the current level of technology access and resources at each instructional site.

Impact: This survey will assist the Watertown Unified School District Instructional Technology Committee in determining accurate hardware resources and enable planning to meet the needs of faculty and students as outlined in this Instructional Technology Plan.

Steps/Activities: The Instructional Technology Committee will conduct a site survey of all school district buildings to determine the current level of technology resources, access for students and staff, and the classification of each resource for instructional use.

Timeline/dates: First semester of the 1999 – 2000 school year.

Person responsible: Technology Committee

Budget/Estimated Costs: Personnel Time (seven days)

TMM Benchmark Survey

Description: The Watertown Unified School District will gather baseline data from a completed TMM benchmarks survey administered to selected stakeholders. This survey data will provide information on perceptions of technology use, support systems, curricular integration, administrative functions, connectivity to resources, and innovative uses to support teaching and learning.

Impact: This baseline data will provide valuable information to the district in determining the effectiveness of implemented programs, growth in technology use over time, and discrepancies in perceptions of technology use throughout the school district. It will also assist in planning for staff development programs and assist in communications regarding the use of technology to support teaching and learning.

Steps/Activities: The Instructional Technology Committee will utilize the Edmin OpenSystems Model Maturity Benchmark Survey to determine the current level of technology integration and use in five critical areas of instructional technology. The data collected will assist the Instructional Technology Committee in determining growth by district personnel in the acquisition and use of technology and technology resources to support teaching and learning.

Timeline/dates: First semester of the 1999 – 2000 school year.

Person responsible: Technology Committee

Project # 2: Professional Development :

Description: The Watertown Unified School District will provide all staff with opportunities for comprehensive, on-going professional development in technology integration which will support and encourage an awareness of the changing relationship between teaching and learning and the effective use of technology resources.

The following are programs that should be developed for faculty and staff.

- *Technology Basics* – Basic operations of teaching and learning technologies.
- *Curricular Scope and Sequence* – Awareness of the district’s scope and sequence of technology knowledge and skills.
- *Basic Computer Applications* – Developing basic skills in all faculty on the use and integration of productivity tools applicable to all subject areas and professional assignments.
- *E-mail Communications* – Using e-mail for communications in teaching and learning.
- *Impact of Technology on Teaching and Learning* – Assisting professional staff in understanding the necessary changes that occur in teaching and learning using technology.
- *Basic Trouble Shooting* – Providing faculty with skills necessary to trouble-shoot common hardware and software concerns.
- *Classroom Applications* – Professional development in specific curricular applications, i.e. student writing, mathematics, science, etc.
- *Using Peripherals* – Develop training on how to apply different technology tools to instruction, such as: scanners, digital cameras, projection devices, etc.
- *Evaluation of Software* – Assist faculty in evaluating curricular software.
- *Copyright* – Assist faculty in understanding their rights and responsibilities under copyright law as it relates to instructional technology applications.

- *Curricular Integration*- level #1 training for Technology Integration and Level #2 Technology to Support Curriculum and Instruction.
- *Networking Basics* – Assist faculty in utilizing district network resources.
- *Desktop Publishing* - Provide training in basic applications and principles of desktop publishing.
- *Assistive Technology* – To be determined.
- *Grading/Management Applications* – Provide training in the uniform application of MacSchool for grading and student data management.

Impact: Through a comprehensive professional development program district faculty and staff will have the knowledge and skills necessary to effectively integrate technology into the teaching and learning environment.

Steps/Activities: Develop a comprehensive professional development program to support effective teaching with technology.

Timeline: By September of each school year a comprehensive listing of inservice offerings will be made available to district faculty and staff based on results of the needs assessment.

Person Responsible: Technology Committee

Project # 3: *Infrastructure*

Description: The Watertown Unified School District will develop an efficient, high speed network capable of providing access to information, communications, and data/voice/video transfer for educational and management applications.

Impact: Access to on-line resources and communications from all classrooms, offices, and resource areas will provide all faculty and students with the opportunity to utilize the potential of instructional technology in the most effective and efficient manner.

Steps/Activities: By acquiring a TEACH Wisconsin loan the Watertown Unified School District will complete the Wide Area Network (WAN) using T - 1 telephone connects, and the high speed internal Local Area Networks (LAN) for Webster, Douglas, Lincoln, Concord, and Lebanon Schools.

Timeline: The 1999 – 2000 and 2000 – 2001 school years.

Person Responsible: Dennis Mudler and Greg Gutkowski

Project # 4: *WebPages and Design*

Description: The Watertown Unified School District will development a school district WebPages on the Internet to increase visibility and communications with personnel in the district, as well as with the greater community and world.

Impact: Through a well designed, updated WebPage the district will provide valuable information and communication to the public.

Steps/Activities: Developed by Bob Logan

Timeline: 1999 – 2000

Person Responsible: Bob Logan and building level contacts

Project # 5: *E-mail*

Description: The Watertown Unified School District will assign an e-mail account, with necessary access, to all faculty, administration, school board members, and students. In addition, the district will develop an e-mail policy for staff and students.

Impact: This project will allow staff and students access to e-mail accountants for instructional and communication purposes to support teaching and learning.

Steps/Activities: Work with principals and Greg Gutkowski for implementation.

Timeline: 1999 – 2000 and 2000 – 01

Person Responsible: Greg Gutkowski

Project # 6: *Faculty Computer Buy*

Description: The Watertown Unified School District will prepare a district “computer buy”, whereby district faculty and staff will have the opportunity to purchase computers for personal use through payroll deductions.

Impact: By allowing district faculty the opportunity to purchase personal computers it is expected they will become more proficient in the use and application of technology to their professional assignment and with their students.

Steps/Activities:

Timeline: Fall 1999

Person Responsible: Dennis Mudler and Business Office

Project # 7: *Multi-media Workstations/Projector Upgrade*

Description: The Watertown Unified School District will install a minimum of one major multi-media computer workstation in each school (library). These units will include, but are not limited to, a multi-media (AV) computer, scanner, digital camera or camcorder, color printer, VCR, TV monitor, portable cart, multimedia software, or a projection device.

Impact: Teachers and students will learn to incorporate a variety of information media into the creation of meaningful learning presentations.

Steps/Activities: Technology Committee will assess needs at each level and make the appropriate purchase with the building administration.

Timeline: 1999 – 2000 through 2001 - 2002

Person Responsible: Technology Committee

Project # 8: *Scope and Sequence/Standards*

Description: The Watertown Unified School District will utilize a scope and sequence of technology knowledge and skills for all students in the school district which outlines the knowledge and skills necessary to effectively utilize technology resources for learning. These skills are to be integrated into existing curriculum content areas. In addition, all faculty will ensure that students have met the various standards outlined in this technology plan to ensure that students are technology literate, wise consumers of resources, workforce ready, and use technology in a responsible and ethical manner.

Impact: To provide continuity and equity in each student’s learning experience, and to support effective teaching and learning using technology. In addition, completion of this effort will ensure technology literacy, equity, and workforce preparedness.

Steps/Activities: Provide copies of standards/in-service for faculty

Timeline: 1999 - 2000

Persons responsible: Technology Committee

Project # 9: *Classroom Computers/Computer Labs*

Description: The Watertown Unified School District will support the implementation of computer technology in sufficient quantity/quality to provide for effective teaching and learning in computer labs and district classrooms.

Impact: By providing the hardware necessary in district classrooms and labs, students and faculty will have the tools needed to fully integrate computer technology with the curriculum and instructional program in the school district.

Steps/Activities: Prioritize purchases for lab and determine migration of teacher workstations.

Timeline: 1999 - 2000 through 2001 - 02

Person Responsible: Technology Committee

Project # 10: *Classroom Television Technology*

Description: The Watertown Unified School District will install a TV, VCR, and cable/satellite programming access in all instructional locations across the district.

Impact: This project will help bring the potential of television programming to all classrooms on demand.

Steps/Activities: Inventory equipment

Timeline: 2000 - 2001

Person Responsible: Technology Committee

Project Summary

Budget Recommendations

The following chart represents a summary of the needs in ten major areas of instructional technology for the Watertown Unified School District. These represent the committee's best

estimate of need and cost at this point in time. As projects are implemented, funding becomes available, and technology evolves this information will need to be updated.

*(see statement following this chart)

Labs	Classroom Computers	Teacher Workstations	Networking/ Infrastructure	Multi-media Workstations Or Projector Upgrade
1999 - 2000 <ul style="list-style-type: none"> • Library Terminals • Webster School • Schurz School • Lincoln School 	1999 - 2000 <ul style="list-style-type: none"> • Language Arts • Math • Science • Social Studies Migration through inservice training	1999 - 2000 <ul style="list-style-type: none"> • K-12 Teachers (72 computers) Assigned through inservice training	1999 - 2000 <ul style="list-style-type: none"> • Douglas School • Webster School • Lincoln School 	1999 - 2000 <ul style="list-style-type: none"> • Douglas School • Webster School • Lincoln School • Schurz School
2000 - 2001 <ul style="list-style-type: none"> • RMS Labs • WHS Labs • Art • Music • Tech Education • WHS Programming 	2000 - 2001 <ul style="list-style-type: none"> • Language Arts • Math • Science • Social Studies 	2000 - 2001 <ul style="list-style-type: none"> • K - 12 Teachers (72 computers) Assigned through inservice training	2000 - 2001 <ul style="list-style-type: none"> • Lebanon School • Concord School • ESC 	2000 - 2001 <ul style="list-style-type: none"> • RMS • Lebanon School • Concord School
2001 - 2002 <ul style="list-style-type: none"> • RMS Labs • WHS Labs • WHS Keyboarding • RMS Keyboarding 	2001 - 2002 <ul style="list-style-type: none"> • Language Arts • Math • Science • Social Studies 	2001 - 2002 <ul style="list-style-type: none"> • K - 12 Teachers (72 computers) Assigned through inservice training	2001 - 2002 <ul style="list-style-type: none"> • WAN Upgrade • LAN Upgrades 	2001 - 2002 <ul style="list-style-type: none"> • WHS

District Staff Development	District Software	District-wide Maintenance	AS/MTC	Personnel
1999 - 2000	1999 - 2000	1999 - 2000	1999 - 2000	1999 - 2000

•\$25,000	•\$25,000	•\$75,000	•\$35,000	•\$100,000
2000 – 2001	2000 – 2001	2000 – 2001	2000 – 2001	2000 – 2001
•\$25,000	•\$25,000	•\$100,000	•\$35,000	•\$100,000
2001 – 2002	2001 – 2002	2001 – 2002	2001 – 2002	2001 – 2002
•\$25,000	•\$30,000	•\$100,000	•\$35,000	•\$60,000

Future Considerations:

- Distance Learning
- Television Technology
- Office Technology
- Elementary Art
- Elementary Music

* It should be noted that migration of computer technology is a high priority that will assist in meeting the need for technology resources in a number of areas outlined in this plan. This includes migration of computers through the district training program (teacher workstations), replacement and upgrading of computer labs, etc. In most cases the computer technology to be placed in classrooms will not be new or additional computer purchases, but rather will occur as a result of effective migration of computers which will be re-distributed to extend the life of the equipment and utilize its capabilities in existing classrooms.

Budget Request

Year # 1: 1999 - 2000

Personnel:

- Technical Support: 1 FTE \$ 40,000
- Curricular Support: 1 FTE \$ 60,000

Hardware:

- Labs: \$ 108,000
- Classroom Computers: (Migration)
- Computer Workstations: \$ 108,000
- Networking: (TEACH)

• Multi-media Workstations:		\$ 20,000
• AS/MTC:		\$ 35,000
Maintenance		\$ 75,000
Software:		\$ 25,000
Staff Development:		\$ 25,000

Year # 2: 2000 - 2001

Personnel:		
• Technical Support:	1 FTE	\$ 40,000
• Curricular Support:	1 FTE	\$ 60,000
Hardware:		
• Labs:		\$ 108,000
• Classroom Computers:		(Migration)
• Computer Workstations:		\$ 108,000
• Networking:		(TEACH)
• Multi-media Workstations:		\$ 30,000
• AS/MTC		\$ 35,000
Maintenance		\$100,000
Software:		\$ 30,000
Staff Development:		\$ 25,000

Year # 3: 2001 - 2002

Personnel:		
• Technical Support:	1 FTE	\$ 0
• Curricular Support:	1 FTE	\$ 60,000
Hardware:		
• Labs:		\$ 108,000
• Classroom Computers:		(Migration)
• Computer Workstations:		\$ 108,000
• Networking:		\$ 50,000
• Multi-media Workstations:		\$ 30,000
• AS/MTC		\$ 35,000
Maintenance		\$100,000
Software:		\$ 30,000
Staff Development:		\$ 25,000

Funding sources for these requests will be through district fund 10, competition grants, TEACH loans, TEACH grants, and e-rate application funding.

Appendix A

Wisconsin's Model Academic Standards for Information and Technology Literacy

John D. Fortier

Assistant State Superintendent
Division for Learning Support: Instructional Services

Calvin J. Potter

Assistant Superintendent
Division for Libraries and Community Learning

Susan M. Grady

Director
Content and Learning Team

Neah J. Lohr

Director
Instructional Media and Technology Team

Jim Klein

Consultant
Instructional Technology



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Please note that the page numbers on the CD-ROM version differ from the page numbers found in the hard copy of standards books. In order to make the CD-ROM version more user friendly, we have removed most of the formatting (i.e., blank pages, columns, sizes and types of fonts, etc.).

A Letter From the State Superintendent

To the Citizens of Wisconsin:

Wisconsin has long been a model for other states in terms of education quality. However, the world is rapidly becoming a more complex place. As a result, we must expect greater academic achievement from our children today if they are to be adequately prepared for the challenges of tomorrow.

The only way to ensure that Wisconsin's students have the skills and abilities to be successful in this rapidly changing technological world is to set clear, high academic standards that describe precisely what today's students must learn and be able to do in order to be successful in their adult lives. This is why we focused our efforts over the past two years creating model academic standards in all subject areas. While Wisconsin's Model Academic Standards do demand more of our students, we are confident that our students are equal to the task.

These model academic standards represent the work of a task force made up of people from diverse backgrounds. Educators, parents, and business people produced the academic content and performance standards in this document. Drafts were subjected to public engagement in which many additional people offered input.

It must be stressed that these standards are not intended to limit local districts. Instead they are a model to be met or exceeded. Our hope is that the standards will shape teaching and learning in Wisconsin's more than 2000 school buildings. The standards will define the criteria by which one can judge the quality of education programs. While many schools already have clearly defined high academic standards, many others may wish to review and perhaps change their learning goals and teaching methods.

Standards logically provide the foundation for testing; and, testing results are a critical barometer of both student and teacher success. Local tests that are well-aligned to the standards are a clear indicator of students' preparation for future education, civic responsibility, and meaningful employment.

In closing, I want to commend the members of the task force who gave freely of their time to produce the standards in this document. Finally, the citizens of Wisconsin must be thanked for devoting their time and effort to the development of the final draft of Wisconsin's Model Academic Standards.

John T. Benson
State Superintendent

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Introduction

Defining the Academic Standards

What are academic standards? Academic standards specify what students should know and be able to do, what they might be asked to do to give evidence of standards, and how well they must perform. They include content, performance, and proficiency standards.

- Content standards refer to *what* students should know and be able to do.
- Performance standards tell *how* students will show that they are meeting a standard.
- Proficiency standards indicate *how well* students must perform.

Why are academic standards necessary? Standards serve as rigorous goals for teaching and learning. Setting high standards enables students, parents, educators, and citizens to know what students should have learned at a given point in time. The absence of standards has consequences similar to lack of goals in any pursuit. Without clear goals, students may be unmotivated and confused.

Contemporary society is placing immense academic demands on students. Clear statements about what students must know and be able to do are essential to ensure that our schools offer students the opportunity to acquire the knowledge and skills necessary for success.

Why are state-level academic standards important? Public education is a state responsibility. The state superintendent and legislature must ensure that all children have equal access to high quality education programs. At a minimum, this requires clear statements of what all children in the state should know and be able to do as well as evidence that students are meeting these expectations. Furthermore, academic standards form a sound basis on which to establish the content of a statewide assessment system.

Why does Wisconsin need its own academic standards? Historically, the citizens of Wisconsin are very serious and thoughtful about education. They expect and receive very high performance from their schools. While educational needs may be similar among states, values differ. Standards should reflect the collective values of the citizens and be tailored to prepare young people for economic opportunities that exist in Wisconsin, the nation, and the world.

Developing the Academic Standards

Who wrote the academic standards and what resources were used? Academic standards for the non-state-assessed subjects were drafted by task forces appointed by the state superintendent. The task forces consisted of educators, parents, board of education members, and business and industry people. After reviewing national standards in the subject area, standards from other states, and standards from local Wisconsin school districts, each task force diligently and thoughtfully composed the academic standards for its respective subject.

How was the public involved in the standards process? Public input is crucial to the success of implementing high-quality standards. It was absolutely essential that the final academic standards reflect the values of Wisconsin's citizens.

Forums, focus groups, and input on the discussion drafts of the academic standards were used for getting citizens' ideas. Drafts of the standards were widely available throughout the state-including the DPI home page available on the Internet. All input received serious consideration.

Using the Academic Standards

Must a district adopt Wisconsin's Model Academic Standards? Adopting Wisconsin's Model Academic Standards is voluntary, not mandatory. By law, however, districts must have academic standards in place by August 1, 1998, in reading and writing, geography and history, mathematics, and science. Districts may adopt the model state standards, or standards from other sources, or develop their own standards. Although not required by law to have standards in the other subjects, districts may choose to adopt or develop academic standards in those areas as well.

How will local districts use the academic standards? Districts may use the academic standards as guides for developing local grade-by-grade curriculum. Implementing standards may require some school districts to upgrade school and district curriculums. In some cases, this may result in significant changes in instructional methods and materials, local assessments, and professional development opportunities for the teaching and administrative staff.

What is the difference between academic standards and curriculum? Standards are statements about what students should know and be able to do, what they might be asked to do to give evidence of learning, and how well they should be expected to know or do it. Curriculum is the program devised by local school districts used to prepare students to meet standards. It consists of activities and lessons at each grade level, instructional materials, and various instructional techniques. In short, standards define what is to be learned at certain points in time, and from a broad perspective, what performances will be accepted as evidence that the learning has occurred. Curriculum specifies the details of the day-to-day schooling at the local level.

What is the link between statewide academic standards and statewide testing? Statewide academic standards in mathematics, English language arts, science, and social studies determine the scope of statewide testing. While these standards are much broader in content than any single Wisconsin Student Assessment System (WSAS) test, they do describe the range of knowledge and skills that may appear on the tests. If content does not appear in the academic standards, it will not be part of a WSAS test. The statewide standards clarify what must be studied to prepare for WSAS tests. If students have learned all of the material indicated by the standards in the assessed content areas, they should do very well on the state tests.

Relating the Academic Standards to All Students

Parents and educators of students with disabilities, with limited English proficiency (LEP), and with accelerated needs may ask why academic standards are important for their students. Academic standards serve as a valuable basis for establishing meaningful goals as part of each student's developmental progress and demonstration of proficiency. The clarity of academic standards provides meaningful, concrete goals for the achievement of students with disabilities, LEP, and accelerated needs consistent with all other students.

Academic standards may serve as the foundation for individualized programming decisions for students with disabilities, LEP, and accelerated needs. While the vast majority of students with disabilities and LEP should be expected to work toward and achieve these standards, accommodations and modifications to help these students reach the achievement goals will need to be individually identified and implemented. For students with disabilities, these decisions are made as part of their individualized education program (IEP) plans. Accelerated students may achieve well beyond the academic standards and move into advanced grade levels or into advanced coursework.

Clearly, these academic standards are for all students. As our state assessments are aligned with these standards and school districts adopt, adapt, or develop their own standards and multiple measures for determining proficiencies of students, greater accountability for the progress of all students can be assured. In Wisconsin this means all students reaching their full individual potential, every school being accountable, every parent a welcomed partner, every community supportive, and no excuses.

Applying the Academic Standards Across the Curriculum

When community members and employers consider what they want citizens and employees to know and be able to do, they often speak of broad areas of applied knowledge such as communication, thinking, problem-solving, and decision-making. These areas connect or go beyond the mastery of individual subject areas. As students apply their knowledge both within and across the various curricular areas, they develop the concepts and complex thinking of educated persons.

Community members need these skills to function as responsible citizens.

Employers prize those employees who demonstrate these skills because they are people who can continue learning and connect what they have learned to the requirements of a job. College and university faculty recognize the need for these skills as the means of developing the level of understanding that separates the expert from the beginner.

Teachers in every class should expect and encourage the development of these shared applications, both to promote the learning of the subject content and to extend learning across the curriculum. These applications fall into five general categories:

1) Application of the Basics

2) Ability to Think

- Problem-solving
- Informed decision-making
- Systems thinking
- Critical, creative, and analytical thinking
- Imagining places, times, and situations different from one's own
- Developing and testing a hypothesis
- Transferring learning to new situations

3) Skill in Communication

- Constructing and defending an argument
- Working effectively in groups
- Communicating plans and processes for reaching goals
- Receiving and acting on instructions, plans, and models
- Communicating with a variety of tools and skills

4) Production of Quality Work

- Acquiring and using information
- Creating quality products and performances
- Revising products and performances
- Developing and pursuing positive goals

5) Connections with Community

- Recognizing and acting on responsibilities as a citizen
- Preparing for work and lifelong learning
- Contributing to the aesthetic and cultural life of the community
- Seeing oneself and one's community within the state, nation, and world
- Contributing and adapting to scientific and technological change

Overview of Information and Technology Literacy

Definition

Information and Technology Literacy is the ability of an individual, working independently or with others, to use tools, resources, processes, and systems responsibly to access and evaluate information in any medium, and to use that information to solve problems, communicate clearly, make informed decisions, and construct new knowledge, products, or systems.

Background

Today's society is witnessing an unprecedented explosion of information and knowledge. In an environment where information is doubling every three to five years and technology is providing increased access to previously restricted or unknown information sources, students face both difficult challenges and unlimited opportunities. The successful students, workers, and citizens of tomorrow will be self-directed, lifelong learners.

Wisconsin's Model Academic Standards for Information and Technology Literacy identifies and defines the knowledge and skills essential for all Wisconsin students to access, evaluate, and use information and technology. These standards connect and interrelate current perspectives in information literacy, media literacy, and technology literacy into a unified conceptual framework. This framework demonstrates a progression from the physical access skills for the use of media and technology, to the intellectual access skills of information use, to skills and attitudes for learning independently, and finally to the skills needed for working responsibly and productively within groups.

Integration

The purpose of these standards is to identify information and technology content and performance standards for all students throughout the pre-kindergarten to grade twelve (PK-12) curriculum. The standards are designed to be integrated into the various content and skill areas of the school curriculum. The focus is on learning with information and technology rather than learning *about* information and technology. This integration will be varied and diverse based on the curricula of individual schools and school systems. The task force hopes that much reflective dialogue will occur in school districts among administrators, curriculum directors, library media specialists, technology coordinators, teachers, parents, and community members as each district adopts or modifies these standards and integrates them into the local instructional program for students.

The focus is on a sequential and broad set of information and technology content and performance standards that are necessary for full development of skills for "learning how to learn" addressed in the core areas of the PK-12 curriculum. The task force recognizes that some of these standards are included in other academic standards and believes this inclusion underscores the importance of information and technology literacy skills by providing entry points for integrating them into a variety of curricular areas. The task force also recognizes that elective programs or advanced courses that are not a part of the curriculum required for all students may require additional or very specific technology skills beyond those listed in these standards.

Finally, it is important to recognize that accomplishing many of the performance standards listed here will require access to technology by individual students or student workgroups. The task force believes these standards can be achieved with a strong district commitment to a technological infrastructure including sufficient equipment, materials and staffing;

appropriate technical support; and a comprehensive, ongoing program of teacher training and staff development.

Organization

The information and technology literacy standards are grouped into four categories or content standards specifying what a student should know and be able to do. The first two content standards focus on technology use and information processing skills. The latter two build upon these by adding performance standards that deal with attitudes, appreciation, independent learning, teamwork skills, and personal and social responsibility.

The four content standards are:

- A. **Media and Technology**—Students in Wisconsin will select and use media and technology to access, organize, create, and communicate information for solving problems and constructing new knowledge, products, and systems.
- B. **Information and Inquiry**—Students in Wisconsin will access, evaluate, and apply information efficiently and effectively from a variety of sources in print, nonprint, and electronic formats to meet personal and academic needs.
- C. **Independent Learning**—Students in Wisconsin will apply technological and information skills to issues of personal and academic interest by actively and independently seeking information; demonstrating critical and discriminating reading, listening, and viewing habits; and, striving for personal excellence in learning and career pursuits.
- D. **The Learning Community**—Students in Wisconsin will demonstrate the ability to work collaboratively in teams or groups, use information and technology in a responsible manner, respect intellectual property rights, and recognize the importance of intellectual freedom and access to information in a democratic society.

Each content standard is followed by performance standards that tell how students will show that they are meeting the content standard. Each performance standard includes a number of indicators that detail how students will demonstrate proficiency in a particular performance area. When students demonstrate proficiency in these performance standards and indicators, they will have mastered a literacy that is basic to success in the world of the 21st century.

In this document the term "media" refers to a wide range of formats including print, nonprint, and electronic. The term "information" reflects narrative, factual, and creative expressions in any of these formats. "Technology" refers to the application of knowledge, tools, and skills to solve practical problems and extend human capabilities. Though technology is often described as process, it is more commonly known by its products and tools and their effects on society. An extensive glossary is included in this document so the reader can find definitions of terminology used in these standards.

A. MEDIA AND TECHNOLOGY

Content Standard

Students in Wisconsin will select and use media and technology to access, organize, create, and communicate information for solving problems and constructing new knowledge, products, and systems.

Rationale:

Success in the 21st century will depend upon an understanding of and the capability to use current and emerging media and technology. The following performance standards list the behaviors which show that students recognize the various types of media and technology, know how to operate and use these technologies, and make sound judgments regarding the most effective technologies to use in specific situations. As the growth of media and technology continues to escalate, students meeting these performance standards will be better prepared to continue to learn and utilize them for the analysis, construction, and presentation of knowledge.

PERFORMANCE STANDARDS

By the end of grade 4 students will:

A.4.1 Use common media and technology terminology and equipment

- identify and define basic computer terminology (e.g., software, hardware, cursor, startup/shutdown, storage medium, file, memory)
- identify and explain the functions of the components of a computer system (e.g., monitor, central processing unit, storage devices, keyboard, mouse, printer)
- demonstrate proper care and correct use of media and equipment
- demonstrate the correct use of input devices (e.g., mouse, keyboard) and output devices (e.g., monitor, printer, speakers)
- develop touch keyboarding techniques using both hands
- save and backup files on a computer hard drive, storage medium, or server
- demonstrate the use of still and video cameras and scanners
- solve problems using the basic four arithmetic functions of a calculator when appropriate
- operate basic audio and video equipment to listen to and view media programs

A.4.2 Identify and use common media formats

- identify the wide variety of current media formats (e.g., video programs, magazines, computer software, audio cassettes, CD-ROM and DVD, newspapers, books, the Internet)
- recognize the common organizational characteristics of print media (e.g., title page, table of contents, copyright statement, index)
- differentiate among the common types of computer software (e.g., drawing programs, utilities, word processing, simulations)
- listen to and view common audio and video media

- access information using common electronic reference sources (e.g., indexes, almanacs, on-line catalogs, encyclopedias)
- describe the purpose and use of a virus detection program
- demonstrate how to open and run a software program from a local storage device or network server
- create, save, move, copy, retrieve, and delete electronic files
- incorporate graphics, pictures, and sound into another document

A.4.3 Use a computer and productivity software to organize and create information

- identify and define basic word processing terminology (e.g., cursor, open, save, file, I-beam, window, document, cut, copy, paste)
- produce a document using a word processing program
- edit a word-processed document using a spell checker
- demonstrate the text editing features of a word processing program (e.g., bold face, italics, underline, double spacing, different size and style of fonts) to produce a finished product
- explore special formatting features (e.g., borders, shading, centering, justification) of a word processing program
- identify a database and define basic database terms (e.g., file, record, field)
- use a prepared database template to enter and edit data, and to locate records
- identify a spreadsheet and explain basic spreadsheet terms (e.g., column, row, cell)
- use a prepared spreadsheet template to enter and edit data, and to produce and interpret a simple graph or chart

A.4.4 Use a computer and communications software to access and transmit information

- describe and explain an on-line information network
- generate, send, retrieve, save, and organize electronic messages
- log on and view information from preselected sites on the Internet
- use the functions of a web browser to navigate and save World Wide Web sites
- identify and use simple search engines and directories

A.4.5 Use media and technology to create and present information

- use draw, paint or graphics software to create simple signs, posters, banners, charts, visuals, etc.
- plan a multimedia production using an outline or storyboard
- create and present a short video or hypermedia program

A.4.6 Evaluate the use of media and technology in a production or presentation

- identify the media and technology used
- explain how well the media and technology contributed to its impact
- identify simple criteria for judging the quality of a production or presentation
- judge how well a particular production meets the identified criteria
- suggest ways to improve future productions or presentations

By the end of grade eight students will:

A.8.1 Use common media and technology terminology and equipment

- identify and define computer and networking terms (e.g., modem, file server, client station, LAN, Internet/Intranet, data storage device)
- demonstrate the correct operation of a computer system on a network
- demonstrate touch keyboarding skills at acceptable speed and accuracy levels (suggested range 20-25 wpm)
- organize and backup files on a computer disk, drive, server, or other storage device
- recognize and solve routine computer hardware and software problems
- use basic content-specific tools (e.g., environmental probes, measurement sensors) to provide evidence/support in a class project
- scan, crop, and save a graphic using a scanner, digital camera, or other digitizing equipment
- use simple graphing calculator functions to solve a problem
- capture, edit, and combine video segments using a multimedia computer with editing software or a video editing system

A.8.2 Identify and use common media formats

- describe the operating and file management software of a computer (e.g., desktop, file, window, folder, directory, pull-down menu, dialog box)
- identify the various organizational patterns used in different kinds of reference books
- define the basic types of learning software (e.g., drill and practice, tutorial, simulation)
- use electronic encyclopedias, almanacs, indexes, and catalogs to retrieve and select information
- describe the various applications of productivity software programs (e.g., word processing, database, spreadsheet, presentation, communication, drawing, desktop publishing)
- identify common integrated software packages or applications suites
- use a graphics program to create or modify detail to an image or picture

A.8.3 Use a computer and productivity software to organize and create information

- explain the use of basic word processing functions (e.g., menu, tool bars, dialog boxes, radio buttons, spell checker, thesaurus, page layout, headers and footers, word count, tabs)
- use the spell checker and thesaurus functions of a word processing program
- move textual and graphics data from one document to another
- use graphics software to import pictures, images, and charts into documents
- use a graphical organizer program to construct outlines or webs that organize ideas and information
- compose a class report using advanced text formatting and layout styles (e.g., single and double spacing, different size and style of fonts, indents, headers and footers, pagination, table of contents, bibliography)
- classify collected data and construct a simple database by defining fields, entering and sorting data, and producing a report
- construct a simple spreadsheet, enter data, and interpret the information
- plot and use different types of charts and graphs (e.g., line, bar, stacked, scatter diagram, area, pie charts, pictogram) from a spreadsheet program

- incorporate database and spreadsheet information (e.g., charts, graphs, lists) in word-processed documents

A.8.4 Use a computer and communications software to access and transmit information

- define basic on-line searching and Internet terminology (e.g., website, HTML, home page, hypertext link, bookmark, URL address)
- send an e-mail message with an attachment to several persons simultaneously
- access information using a modem or network connection to the Internet or other on-line information services
- view, print, save, and open a document from the Internet or other on-line sources
- use basic search engines and directories to locate resources on a specific topic
- demonstrate efficient Internet navigation
- organize World Wide Web bookmarks by subject or topic

A.8.5 Use media and technology to create and present information

- use draw, paint, or graphics software to create visuals that will enhance a class project or report
- design and produce a multimedia program
- plan and deliver a presentation using media and technology appropriate to topic, audience, purpose, or content

A.8.6 Evaluate the use of media and technology in a production or presentation

- determine the purpose of a specific production or presentation
- describe the effectiveness of the media and technology used in a production or presentation
- identify criteria for judging the technical quality of a production or presentation
- judge how well the production or presentation meets identified criteria
- recommend ways to improve future productions or presentations

By the end of grade 12 students will:

A.12.1 Use common media and technology terminology and equipment

- identify and define basic on-line and telecommunications terminology or concepts (e.g., bandwidth, satellite dish, distance learning, desktop conferencing, listserv, downlink, teleconference, virtual reality)
- demonstrate proper keyboarding mechanics and touch type accurately (suggested range 30-35 wpm)
- use a camcorder, VCR, multimedia computer, or editing equipment to produce a short video program
- identify common graphic, video, and sound file formats (e.g., JPEG, GIF, MPEG, QUICKTIME, WAV)
- use desktop or video conferencing equipment and systems

A.12.2 Identify and use common media formats

- identify examples of agents, expert systems, or artificial intelligence (e.g., search engine, grammar checker, voice recognition, translators)
- describe the common organizational patterns in different types of print media
- identify and explain the use of common microforms
- demonstrate how to import and export text, graphic, and sound files
- distinguish between an individual productivity program and an integrated software program or applications suite
- edit, import, and export movie or video files

A.12.3 Use a computer and productivity software to organize and create information

- explain terminology and concepts connected with integrated software or an applications suite (e.g., tool palette, bulleted or numbered lists, macros, auto-correct, find-and-replace, stylesheets)
- use an integrated program or applications suite to complete a class assignment
- proofread and edit a document using the spell, thesaurus, and grammar checking functions of a word processing program
- manipulate graphics objects in a word processing program (e.g., select, move, modify, delete, duplicate, arrange)
- use desktop publishing and graphics software to produce page layouts in different formats (e.g., brochure, tri-fold, newsletter)
- analyze data from a database and present conclusions in a document or report
- construct a spreadsheet, enter data into cells, use mathematical functions to manipulate/process data, generate a chart or graph, and interpret the results
- use a computer and graphical organizer software to generate modifiable flow charts, project time lines, organizational charts, or calendars

A.12.4 Use a computer and communications software to access and transmit information

- choose most appropriate search engines and directories to locate specific resources on the Internet or other on-line services
- distinguish between "pull" and "push" or "broadcast" methods of acquiring information from an on-line source
- employ FTP (file transfer protocol) to retrieve and download computer files from a remote computer
- use desktop conferencing, e-mail, or groupware to communicate with others regarding assignments or class projects
- establish access to primary sources and other experts for class reports or projects
- participate in an on-line discussion group or listserv appropriate to a content area
- gather and organize statistical or survey data using e-mail, listservs, or on-line news or discussion groups

A.12.5 Use media and technology to create and present information

- use draw, paint, graphics, or presentation software to visually communicate ideas or concepts
- produce a multimedia program using text, graphics, moving images, and sound
- develop a document or file for inclusion into a website or web page
- participate in a desktop conferencing session to present and share information with others

A.12.6 Evaluate the use of media and technology in a production or presentation

- assess the purpose and effectiveness of a production or presentation
- evaluate the appropriateness and effectiveness of the media and technology used
- determine criteria for judging the delivery, pacing, focus, and technical quality of the production or presentation
- judge how well the production or presentation meets specified criteria
- specify ways to improve future productions or presentations

B. INFORMATION AND INQUIRY

Content Standard

Students in Wisconsin will access, evaluate, and apply information efficiently and effectively from a variety of sources in print, nonprint, and electronic formats to meet personal and academic needs.

Rationale:

Today's students face a present and future in which they will encounter unprecedented access to ever increasing amounts of information. Students must be prepared to evaluate critically each item of information in order to select and use information effectively in learning and decision-making for personal growth and empowerment. This critical evaluation requires that students have frequent opportunities to learn how knowledge is organized, how to find information, and how to use information in such a way that others can learn from them. Mastery of information and inquiry skills will prepare students to participate in a rapidly changing, information-based environment.

PERFORMANCE STANDARDS

By the end of grade 4 students will:

B.4.1 Define the need for information

- identify the information problem or question to be resolved
- determine what is already known about the information problem or question
- formulate initial questions to define what additional information is needed
- determine a specific focus for the information search questions

B.4.2 Develop information seeking strategies

- identify possible sources of information including print, nonprint, electronic, and human resources
- evaluate possible sources based on currency, genre, and relevance to topic
- select more than one resource when appropriate
- identify keywords and phrases for each information source
- recognize different ways to organize ideas, concepts, and phrases
- list steps to follow in carrying out the information search

B.4.3 Locate and access information sources

- recognize that materials in the school library media center are organized in a systematic manner
- locate materials using the classification system of the school library media center
- identify and use printed or electronic catalogs to access materials in the school library media center
- search for information by keyword, author, title, and topic or subject
- use an encyclopedia, dictionary, almanac, and atlas in print or electronic formats
- use the index or table of contents of a book, magazine, or reference set to locate specific information
- locate information from preselected Internet sites and web pages

B.4.4 Evaluate and select information from a variety of print, nonprint, and electronic formats

- preview selected resources using table of contents, index, and other simple scanning strategies
- differentiate between fiction and nonfiction resources
- distinguish between fact and opinion
- determine timeliness and validity of information sources
- recognize that graphics and images can be used to convey a message
- identify the sponsoring organization or author for all resources
- choose resources appropriate to their interests, abilities, and information need

B.4.5 Record and organize information

- take notes or record information in their own words
- record the sources of information as notes are taken
- recognize the need to identify the author of any information copied verbatim
- arrange notes to help answer the information problem or question
- organize information using simple outlining techniques
- list basic bibliographic sources for information used

B.4.6 Interpret and use information to solve the problem or answer the question

- identify new information and integrate it with prior knowledge
- determine if information is relevant to the information question
- select information applicable to the information question
- seek additional information if needed
- apply the information gathered to solve the information problem or question

B.4.7 Communicate the results of research and inquiry in an appropriate format

- identify the audience for the product or presentation
- identify whether the purpose of the product or presentation is to inform, entertain, or persuade
- recognize the three common types of communication or presentation modes (written, oral, visual)
- choose a presentation format (e.g., speech, paper, web page, video, hypermedia)

- develop a product or presentation to communicate the results of the research

B.4.8 Evaluate the information product and process

- review the criteria to be used in judging both the product (or presentation) and the process
- determine how well the product or presentation meets the original information need based on the criteria
- review the process based on the criteria
- suggest ways in which the process and product can be improved

By the end of grade 8 students will:

B.8.1 Define the need for information

- identify the information problem or question to be resolved
- relate what is already known to the information need
- formulate general and specific research questions using a variety of questioning skills
- revise and narrow the information questions to focus on the information need

B.8.2 Develop information seeking strategies

- identify relevant sources of information including print, nonprint, electronic, human, and community resources
- evaluate possible sources of information based on criteria of timeliness, genre, point of view, bias, and authority
- select multiple sources that reflect differing or supporting points of view
- identify and select keywords and phrases for each source, recognizing that different sources use different terminology for similar concepts
- organize ideas, concepts, and phrases using webbing, outlines, trees, or other visual or graphic tools
- focus search strategies on matching information needs with available resources

B.8.3 Locate and access information sources

- identify the classification system used in the school library media center, public library, and other local libraries
- locate materials using the classification systems of the school library media center and the public library
- use an on-line catalog and other databases of print and electronic resources
- recognize differences in searching bibliographic records, abstracts, or full text databases
- search for information by subject, author, title, and keyword
- use Boolean operators with human or programmed guidance to narrow or broaden searches
- use biographical dictionaries, thesauri, and other common reference tools in both print and electronic formats
- use a search engine to locate appropriate Internet or Intranet resources

B.8.4 Evaluate and select information from a variety of print, nonprint, and electronic formats

- examine selected resources for pertinent information using previewing techniques to scan for major concepts and keywords
- differentiate between primary and secondary sources
- distinguish between fact and opinion; recognize point of view or bias
- determine if information is timely, valid, accurate, comprehensive, and relevant
- analyze and evaluate information presented in charts, graphs, and tables
- locate indicators of authority for all sources of information
- select resources in formats appropriate to content and information need and compatible with their own learning style

B.8.5 Record and organize information

- use notetaking strategies including summarizing and paraphrasing
- record concise notes in a prescribed manner, including bibliographic information
- cite the source of specific quotations or visuals using footnotes, endnotes, or internal citation formats
- organize and compare information using graphic organizers, storyboarding, and other relational techniques
- organize information in a systematic manner appropriate to question, audience, and intended format of presentation
- record sources of information in a standardized bibliographic format

B.8.6 Interpret and use information to solve the problem or answer the question

- compare and integrate new information with prior knowledge
- analyze information for relevance to the question
- analyze findings to determine need for additional information
- gather and synthesize additional information as needed
- draw conclusions to address the problem or question

B.8.7 Communicate the results of research and inquiry in an appropriate format

- determine the audience and purpose for the product or presentation
- identify possible communication or production formats
- select a presentation format appropriate to the topic, audience, purpose, content, and technology available
- develop an original product or presentation which addresses the information problem or question

B.8.8 Evaluate the information product and process

- identify the criteria to be used in judging both the product (or presentation) and the process
- determine how well research conclusions and product meet the original information need or question based on the identified criteria
- assess the process based on identified criteria
- summarize ways in which the process and product can be improved

By the end of grade 12 students will:

B.12.1 Define the need for information

- state the information problem or question in clear and concise terms
- relate prior knowledge to the problem or question
- develop specific research questions or a thesis statement based on the nature, purpose, and scope of project
- conduct a preliminary search to determine if the research questions or thesis statement is clear and searchable; refine and revise if necessary

B.12.2 Develop information-seeking strategies

- identify a full range of appropriate and available information from local, national, and global sources
- determine and apply evaluative criteria to prioritizing potential sources
- pursue a variety of resources reflecting differing points of view, cultures, and disciplines
- identify and evaluate keywords, concepts, subject headings, and descriptors for each information source
- organize ideas, concepts, and issues in a manner appropriate to the subject and purpose
- develop a plan to obtain needed information using a variety of research and investigative strategies (e.g., interviews, questionnaires, experiments, surveys)

B.12.3 Locate and access information sources

- identify the different classification systems used in local school, public and post-secondary libraries, and resource agencies
- locate information using the classification system and catalog in use at a variety of libraries and resource agencies
- use increasingly complex organizational features of print and electronic resources such as cumulative and cross-database indexes
- use different search strategies for bibliographic citations, abstracts, and full-text resources in electronic formats
- construct effective electronic and manual searches using keywords, phrases, Boolean logic, and limiters
- determine when to use general or specialized print and electronic reference tools
- compare, evaluate, and select appropriate Internet search engines and directories

B.12.4 Evaluate and select information from a variety of print, nonprint, and electronic formats

- select information clearly related to the problem or question
- evaluate information for stereotyping, prejudice, and misrepresentation
- distinguish among fact, opinion, point of view, and inference
- determine if sources are authoritative, valid, reliable, accurate, relevant, and comprehensive
- evaluate graphic images for misleading presentation and manipulated data

- determine authorship for all resources and identify points of agreement and disagreement among sources
- select information in formats and genre most appropriate to content

B.12.5 Record and organize information

- use data-gathering strategies that include summarizing, paraphrasing, comparing, and quoting
- follow standardized notetaking processes and compile bibliographic information in an approved format
- credit sources for all quotations, visuals, major ideas, and specific facts or data using accepted citation formats
- analyze and relate information using a variety of relational techniques (e.g., graphic organizers, database reports, spreadsheet charts, graphs)
- organize information in systematic manner for unity, coherence, clarity, and emphasis
- compile a bibliography in a format stipulated by an accepted manual of style

B.12.6 Interpret and use information to solve the problem or answer the question

- interpret new information to formulate ideas which address the question or problem using comparison, evaluation, inference, and generalization skills
- synthesize new ideas, evidence, and prior knowledge to address the problem or question
- draw conclusions and support them with credible evidence

B.12.7 Communicate the results of research and inquiry in an appropriate format

- determine the audience and purpose for communicating the information
- compare strengths and weaknesses of possible presentation methods and products
- select the most appropriate format for the product or presentation
- develop a product or presentation that utilizes the strengths of the medium and supports the conclusions drawn in the research effort

B.12.8 Evaluate the information product and process

- establish the criteria to be used in judging both the product (or presentation) and the process
- assess how well the research conclusions and product satisfy the defined information need
- critique the process and identify steps which need further study, skill development, or practice
- evaluate how the research question or problem, search strategy, resources, and interpretation could have been expanded or modified

C. INDEPENDENT LEARNING

Content Standard

Students in Wisconsin will apply information and technology skills to issues of personal and academic interest by actively and independently seeking information; demonstrating critical and discriminating reading, listening, and viewing habits; and, striving for personal excellence in learning and career pursuits.

Rationale:

Independent learning is central to the effective use of information and technology for personal, career, and recreational choices. Skills in independent learning are developed and used in the classroom and are essential for participation in education beyond the formal structures of schooling. Students should be able to select, evaluate, and relate literature, media, and other creative expressions of information to their own experience. Independent learners will demonstrate self-motivation in identifying information needs, solving information problems, evaluating solutions, and developing personal goals.

PERFORMANCE STANDARDS

By the end of grade 4 students will:

- C.4.1 Pursue information related to various dimensions of personal well-being and academic success
 - identify topics of interest and seek relevant information about them
 - recognize that information can be used to make decisions or satisfy personal interest
 - recognize that accurate information is basic to sound decisions

- C.4.2 Appreciate and derive meaning from literature and other creative expressions of information
 - choose fiction and other literature of personal interest
 - recognize that award winning books reflect literary and artistic excellence
 - relate literature and other creative expressions of information to personal experiences
 - compare their own interpretations of literature and other creative expressions of information with those of others

- C.4.3 Develop competence and selectivity in reading, listening, and viewing
 - choose materials at appropriate developmental levels
 - identify materials that reflect diverse perspectives
 - differentiate among written, oral, and visual forms of literature
 - recognize that media can be constructed to convey specific messages, viewpoints, and values

- C.4.4 Demonstrate self-motivation and increasing responsibility for their learning
 - contribute to group or classroom decisions about learning objectives
 - identify topics suitable for independent learning or in-depth exploration
 - apply prescribed criteria for judging success of learning projects
 - establish goals and determine steps for completing a project
 - assess progress and quality of work

By the end of grade 8 students will:

- C.8.1 Pursue information related to various dimensions of personal well-being and academic success
- identify topics of interest and seek relevant information about them
 - identify information appropriate for decision-making and personal interest
 - recognize that accurate and complete information is basic to sound decisions in both personal and academic pursuits
- C.8.2 Appreciate and derive meaning from literature and other creative expressions of information
- recognize that reviews, evaluations, and guidance from teachers, library media specialists, and others assist in the selection of appropriate literature and creative expressions of information
 - identify and use personal criteria for choosing literature and other creative expressions of information
 - relate literature and creative expressions of information to personal experiences
 - relate literature and creative expressions of information to other literature or creative expressions of information
- C.8.3 Develop competence and selectivity in reading, listening, and viewing
- choose materials at appropriate developmental levels
 - identify and select materials that reflect diverse perspectives
 - identify characteristics of common literary forms
 - recognize how words, images, sounds, and illustrations can be constructed to convey specific messages, viewpoints, and values
- C.8.4 Demonstrate self-motivation and increasing responsibility for their learning
- participate in decisions about group and classroom projects and learning objectives
 - identify and select topics of personal interest to expand classroom learning projects
 - recommend criteria for judging success of learning projects
 - establish goals and develop a plan for completing projects on time and within the scope of the assignment
 - evaluate progress and quality of personal learning
 - establish personal goals in pursuit of individual interests, academic requirements, and career paths

By the end of grade 12 students will:

- C.12.1 Pursue information related to various dimensions of personal well-being and academic success
- identify topics of interest and seek relevant information about them

- evaluate information for decision-making and personal interest
- recognize that accurate and complete information is essential to sound decisions in personal, academic, and career pursuits

C.12.2 Appreciate and derive meaning from literature and other creative expressions of information

- recognize that core lists of classics and recommended titles for precollege reading provide for a well-rounded literary background
- apply personal criteria for choosing literature and other creative expressions of information
- relate literature and other creative expressions of information to personal experiences
- compare and contrast examples of literature and creative expressions of information with other examples of literature and creative expressions of information

C.12.3 Develop competence and selectivity in reading, listening, and viewing

- choose materials at appropriate developmental levels
- identify and select materials that reflect diverse perspectives
- contrast characteristics of common literary forms
- evaluate how words, images, sounds, and illustrations are constructed to convey specific messages, viewpoints, and values to shape attitudes and influence action

C.12.4 Demonstrate self-motivation and increasing responsibility for their learning

- make decisions about group and classroom projects and learning objectives
- identify topics for independent study to meet individual learning needs and interests
- develop and apply criteria for judging success of learning projects
- establish goals, plans, budgets, and timelines for completing a project
- recognize gaps in personal knowledge and apply strategies for addressing them
- evaluate progress and quality of personal learning
- articulate personal goals in pursuit of individual interests, academic requirements, and career paths

D. THE LEARNING COMMUNITY

Content Standard

Students in Wisconsin will demonstrate the ability to work collaboratively in teams or groups, use information and technology in a responsible manner, respect intellectual property rights, and recognize the importance of intellectual freedom and access to information in a democratic society.

Rationale:

As a member of a community of learners, each individual's actions impact all members of that community. The workplace in the 21st century will be a collaborative environment requiring a high level of communication, problem-solving, and teamwork skills. The concept of the larger learning community suggests that all of us—students, teachers, administrators,

parents, and other citizens—are interconnected in a lifelong quest to understand and meet our constantly changing information needs. The new learning community is not limited by time, place, age, occupation, or individual fields of study. Rather, this community is linked by mutual respect for the opinions and work of others; by interests and needs; by open and equitable access to information; and by a continually expanding and improving global telecommunications network.

PERFORMANCE STANDARDS

By the end of grade 4 students will:

- D.4.1 Participate productively in workgroups or other collaborative learning environments
- share information and ideas with others
 - respect the ideas of others
 - articulate workgroup goals and individual responsibilities within the group
 - participate in the development of individual and workgroup tasks and priorities
 - recognize that individual achievement is linked to the successful completion of workgroup projects
 - complete workgroup projects to meet an established timeline
 - review workgroup projects and suggest improvements
- D.4.2 Use information, media, and technology in a responsible manner
- return all borrowed materials on time
 - identify the school's rules on student use of the Internet and other resources
 - demonstrate use of the Internet and other on-line sources consistent with the school's acceptable use policy
 - employ proper etiquette in all forms of communication
 - recognize that altering or destroying another person's program or file constitutes unacceptable behavior
 - differentiate between copying and summarizing
 - recognize that using media and technology to defame another person or group constitutes unacceptable behavior
 - recognize the need for privacy of personal information
- D.4.3 Respect intellectual property rights
- explain the concept of intellectual property rights
 - describe how copyright protects the right of an author or producer to control the distribution, performance, display, or copying of original works
 - recognize that the copying of commercial or licensed media is a violation of the copyright law
 - identify violations of the copyright law as a crime for which there are serious consequences
 - explain why the use of all or parts of another person's work requires prior permission or citation
 - recognize that a quoted work must be stated in the author's exact words
 - list sources quoted verbatim and visuals used in a presentation
 - recognize that reports or articles they write must be put in their own words

D.4.4 Recognize the importance of intellectual freedom and access to information in a democratic society

- define the concept of intellectual freedom
- identify examples of censorship
- recognize the importance of free and open access to information for all citizens
- acknowledge the right of classmates to express opinions different from their own
- describe situations or conditions where information is repressed or restricted

By the end of grade 8 students will:

D.8.1 Participate productively in workgroups or other collaborative learning environments

- collaborate with others to identify information needs and seek solutions
- demonstrate acceptance to new ideas and strategies from workgroup members
- determine workgroup goals and equitable distribution of individual or subgroup responsibilities and tasks
- plan for the efficient use and allocation of time
- complete workgroup projects on time
- evaluate completed projects to determine how the workgroup could have functioned more efficiently and productively

D.8.2 Use information, media, and technology in a responsible manner

- return all borrowed materials on time
- describe and explain the school policy on technology and network use, media borrowing, and Internet access
- demonstrate responsible use of the Internet and other electronic resources consistent with the school's acceptable use policy
- recognize that using media and technology to defame or libel another person or group constitutes unacceptable behavior
- identify and define the consequences of violations to the school's policies on media and technology use
- recognize the need for privacy and protection of personal information

D.8.3 Respect intellectual property rights

- define the purpose of copyright and copyright law
- identify what kinds of works of authorship can be copyrighted
- explain the concept of "fair use" as it pertains to the copyright law
- recognize that the "fair use" provisions may differ depending on the media format
- relate examples of copyright violations
- cite the source for words which are quoted verbatim and for pictures, graphics, and audio or video segments which are used in a product or presentation
- explain and differentiate the purposes of a patent, trademark, and logo

D.8.4 Recognize the importance of intellectual freedom and access to information in a democratic society

- explain the concept of intellectual freedom

- identify examples and explain the implications of censorship in the United States and in other countries
- explain the importance of the principle of equitable access to information
- compare and contrast freedom of the press in different situations and geographic areas
- recognize that the free-flow of information contributes to an informed citizenry resulting in sound decisions for the common good

By the end of grade 12 students will:

D.12.1 Participate productively in workgroups or other collaborative learning environments

- collaborate with others to design and develop information products and solutions
- incorporate effective group processes and shared decision-making in project development
- specify and detail workgroup goals and individual and subgroup responsibilities
- finalize workgroup strategies, resources, budget, and timeline
- allocate time for a project based on an inventory of the responsibilities of workgroup members
- complete specific projects within a timeline and budget
- critique completed projects and workgroup processes for future improvement

D.12.2 Use information, media, and technology in a responsible manner

- return all borrowed materials on time
- assess the need for different information policies and user agreements in a variety of settings (e.g., private employer, university, government agency)
- demonstrate use of the Internet and other resources consistent with acceptable use policies
- recognize that using media or technology to defame, libel, or misrepresent another person or group constitutes unacceptable behavior
- identify and define consequences of violations to the school's policies on media and technology use
- recognize the need for privacy of certain data files or documents

D.12.3 Respect intellectual property rights

- explain the difference between copyright and copyright registration
- explain why "fair use" is permitted for educational purposes but not in "for profit" situations
- distinguish among freeware, shareware, and commercial software
- recognize the legal consequences of plagiarism and the need for personal authenticity in their work
- explain conditions under which permission must be obtained for the use of copyrighted materials
- describe how to correspond with authors, publishers, or producers to obtain permission to use copyrighted materials in their work

D.12.4 Recognize the importance of intellectual freedom and access to information in a democratic society

- summarize how the basic principles of democracy relate to intellectual freedom
- distinguish between intellectual freedom as it relates to children versus adults
- investigate a specific censorship situation (e.g., challenge to a book or magazine in a local library)
- recommend strategies for ensuring that others have equitable access to information, media resources, and technology
- project what conditions might result if intellectual freedom were ignored in their own community or in the United States

Summary

Media and Technology

- Use common media and technology terminology and equipment
- Identify and use common media formats
- Use a computer and productivity software to organize and create information
- Use a computer and communications software to access and transmit information
- Use media and technology to create and present information
- Evaluate the use of media and technology in a production or presentation

Information and Inquiry

- Define the need for information
- Develop information seeking strategies
- Locate and access information sources
- Evaluate and select information from a variety of print, nonprint, and electronic formats
- Record and organize information
- Interpret and use information to solve the problem or answer the question
- Communicate the results of research and inquiry in an appropriate format
- Evaluate the information product and process

Independent Learning

- Pursue information related to various dimensions of personal well-being and academic success
- Appreciate and derive meaning from literature and other creative expressions of information
- Develop competence and selectivity in reading, listening, and viewing
- Demonstrate self-motivation and increasing responsibility for their learning

The Learning Community

- Participate productively in workgroups or other collaborative learning environments
- Use information, media, and technology in a responsible manner
- Respect intellectual property rights
- Recognize the importance of intellectual freedom and access to information in a democratic society

Glossary of Terms

AASL (American Association of School Librarians). A division of the American Library Association, the oldest and largest library association in the world.

Abstract. A short summary in which the writer highlights all essential points of an article, book, or media resource.

Academic Standards. Standards that specify what students should know and be able to do (content), what they might be asked to do to give evidence of meeting standards (performance), and how well they must perform (proficiency).

Acceptable Use Policy (AUP). A school or organization's official policy statement regarding the use of the Internet or other computer networks.

Address. A name, group of numbers, or bits used to identify a specific device (e.g., server, printer, computer) on a network.

AECT (Association for Educational Communications and Technology). A major international professional association dedicated to the improvement of instruction through the effective use of media and technology.

Agent. A program that does things for a user like filtering e-mail and finding web sites to suit the users interests; also called an expert or intelligent agent.

ALA (American Library Association). The voice of America's libraries and the people who depend on them. It is the oldest and largest library association in the world with members in academic, public, school, government, and special libraries.

Analog. A signal that transmits information by modulating a continuous signal, such as a radio wave (see Digital).

Analog Signals. Signals that vary continuously by amplitude or frequency. Historically, older transmission systems, like the telephone service, have been analog, while most newer systems are digital in nature (see Digital).

Analyze. To determine the components of or separate into component parts; to divide into parts and determine the relation of each part to the other parts, or the whole.

Application. A computer or software program a user activates to perform a specific function or functions for the user; applications are often referred to as productivity software.

Artificial Intelligence. Computer software packages that try to emulate human intelligence in order to solve problems using reasoning and learning.

Attachment. A document or file appended or "attached" to an e-mail message. An attachment retains the formatting of the original provided the receiver has the same or compatible software on his/her computer that created the attachment.

Audio Conferencing. A conferencing system employing voice-only communications.
Bandwidth. The amount of the electromagnetic spectrum that a given signal occupies; usually expressed in kilohertz (thousands of hertz, or Khz) or megahertz (millions of hertz or

Mhz). It may also refer to the amount of data that can be carried by a channel; usually expressed in bits per second.

Baud Rate. The speed of data transmission over telephone lines; approximately equal to bits per second. A measure of a modem's speed in terms of the amount of information that modem can transfer from one computer to another in one second.

BBS (Bulletin Board System). A computer that stores information and allows users to post and retrieve files to it by way of a modem or network connection.

Bibliographic Database. A database listing in which the information is presented as citations that include the author, title, publisher, publication date, and other publication facts.

Bibliographic Record. A listing of information received from a library or electronic database that can be brief (author, title, publisher, etc.) or full (abstract, summary, holdings information, and location).

Bibliography. A list of works such as books, articles, media resources, etc. on a particular subject, usually arranged alphabetically by author.

Binary Code. The base 2 numbering system comprised of the numbers 0 and 1. All computers are based upon this numbering system.

Bitmap. Any picture or image a user sees on a Web page. Bitmaps come in many file formats such as GIF, PICT, JPEG, etc. They can be read and edited by paint programs and image editors. As its name suggests, a bitmap is a map of dots or "pixels."

Bits (short for binary digit). The most basic, or smallest, unit in a computer system. In accordance with binary code, each bit is designated as either a 1 or a 0.

BPS (Bits Per Second). A measure of a modem's speed in terms of the number of bits that modem can transfer in one second; synonymous with baud rate.

Boolean Logic. A logic system used by computers that employs the words AND, OR, and NOT to increase search precision. The use of the word OR expands a search. The use of the words AND and NOT narrows a search.

Boolean Operators. AND, OR, and NOT are the most commonly used operators; used to increase the precision of an on-line or electronic search.

Boot. A term for turning on a computer and having it automatically load a set of software the computer requires to do all of its basic operations; sometimes also referred to as "booting up" a computer.

Bridge. A device similar to a gateway except it connects similar networks to one another and is normally programmed. A major advantage of bridges is that any type of protocols being used on the subnets can be forwarded whether they are TCP/IP packets, OSI packets, or whatever.

Broadcast. Television and radio signals designed to reach a mass audience. In Internet technology, broadcasting (also called "push" technology) is like e-mail. When you log on to a

computer there will likely be e-mail waiting for you. Broadcasting uses sophisticated software or "agents" that will operate in the background, search and retrieve information needed by the user, and place that information in a mailbox or directory on the user's computer.

Browser. A software program used to view World Wide Web pages; also called a web browser. Currently, the two most popular web browsers are Netscape Navigator and Microsoft's Internet Explorer.

Byte. A combination of 8 bits. One byte represents a single letter, symbol, or number between 0 and 9. Hard disk and other storage devices and a computer's RAM (random access memory) are measured in thousands of bytes (kilobytes), millions of bytes (megabytes), or billions of bytes (gigabytes).

Cable Modem. A modem that uses two cable TV channels to establish a two-way flow of computer information over the coaxial cables used to bring cable TV into the home or business.

Cache. In a computer or local area network this refers to the amount of RAM (random access memory) set aside to hold data that may be frequently accessed again. Data in a cache will be retrieved much faster than data which must be read from a storage medium or device.

CAD/CAM (Computer Assisted Design/Computer Assisted Manufacturing). A computer software drawing program designed to create visual representations in color, according to scale, and in multiple dimensions.

Call Number. A unique letter/number combination assigned to each book or media resource in a library used to identify its location on the shelves.

Capture. Saving a file to your computer from a remote system. Capturing data, graphics, sound, or video files allows the user to listen, view, or print on-line data at a later time.

CATV (Cable Television). The term originally stood for community antenna television.

CD-ROM (Compact Disc-Read Only Memory). A computer storage medium similar to the audio CD which can hold more than 600 megabytes of read-only digital information.

CESA (Cooperative Educational Service Agency). A nonprofit organization based on contiguous school districts in a geographic area of the state, created by the Wisconsin Legislature to address educational needs by sharing the cost of services. Wisconsin currently has 12 CESAs which provide a variety of services to the school districts in their areas.

Channel. In data communications, a one-way path along which signals can be sent between two or more points. In telecommunications, a transmission path between two or more points provided by a common carrier.

Chat. Communication between members of an on-line service using text. The messages are sent between users in real time as in a conversation by typing in short statements.

Citation. A reference or a note referring to a document or file from which text is quoted.

Classification. The process of arranging and assigning unique codes or numbers to print, nonprint, or electronic materials according to their subject, format, or any other legitimate method in a logical sequence.

Client. A software application on a computer or terminal that allows the user to extract some service from a network server.

Codec (Coder/Decoder). An electronic device that converts standard television signals into compressed digital signals for transmission. The same device can convert incoming compressed digital signals back into viewable television signals.

Command. An instruction given by a computer user (most often by pointing at menu options on the monitor screen using a mouse or by typing a certain function key or keyboard sequence) in order to complete a certain task or operation.

Common Carrier. A government-regulated private company that furnishes the public with telecommunications services (e.g., phone companies).

Communication Software. A program that connects you to another computer or network in order to communicate with that computer or network.

Compressed File. A computer file that has been reduced in size through a compression software program. The user must decompress these files before they can be viewed or used.

Compressed Video. A method of sending video signals using less bandwidth than normal by transmitting only changes in moving frames rather than full motion. The reconstituted image exhibits some motion and depending on the available bandwidth and capacity of transmitters and receivers, the motion may appear somewhat irregular. This effect occurs in compressed video technology because the moving areas of the image are only approximated.

Computer Catalog. A computerized listing that enables users to access the record of holdings of a particular library, library network, or information agency or service.

Concentrator. Another term for a networking hub (see Hub).

Conference. A meeting of individuals for consulting or discussion on topics of common interest.

Connect Time. Usually this term refers to the amount of time that a terminal or computer has been logged on to a computer or server for a particular session.

Content Standard. Refers to what students should know and be able to do.

Contrast Ratio. The ratio of brightness between the white and black areas of an image.

Copyright. The property right granted by a government to the originator (e.g., author, organization) of an intellectual property to reproduce, copy, print, duplicate, publish, sell, and distribute any section or part of an existing original work (e.g., book, article, video program).

Copyright Registration. The process of applying for and obtaining formal U. S. Copyright Office acknowledgment of copyright.

CPU (Central Processing Unit). Another name given to a computer. CPU usually denotes the box that contains the microprocessor, power supply, and disk drives.

Creative Expressions of Information. Creative or artistic works in a variety of media formats or creative or artistic productions and presentations (e.g., plays, exhibitions, concerts).

Curriculum. The program devised by local school districts used to prepare students to meet standards. It consists of activities and lessons at each grade level, instructional materials, and various instructional techniques. Curriculum specifies the details of the day-to-day schooling at the local level.

Cursor. The pointer on the screen whose position you control by moving a mouse or other input device.

Cut, Copy, and Paste. A set of computer commands that allow sections of documents or graphics to be moved from one place to another within a document or from one document to another.

Cyberspace. The collection of computers located on multiple networks that communicate with other computers across the Internet.

Database. A collection or listing of information, usually organized with searchable elements or fields. For example, a library catalog can be searched by author, title, or subject.

Dedicated Line. A leased or private line is a communication line used exclusively by one customer.

Default. A setting that a computer system uses automatically, unless otherwise changed by the user.

Definition. The sharpness or resolution of a picture or graphics image.

Descriptor. A synonym for a subject heading or keyword.

Desktop. The background area on a computer screen which usually contains an icon for the hard drive and trash can (used to remove files). Folders, files, applications, and a working document may also appear on the desktop window.

Desktop Conferencing. The process by which an individual or small group uses a personal computer, small video camera, microphone, and special software to "teleconference" or communicate with another individual, individuals, or small group via the monitors and speakers of personal computers.

Desktop Publishing. The process of using a computer and special software to produce a document with complex formatting and layout styles such as newsletters, brochures, and ad copy.

Dial-Up. To open a connection between a user's computer and another computer via a modem.

Dialog Box. A computer screen window that asks a question or allows users to input information.

Digital. Signal based on a binary code in which information is sent as a series of "on" and "off" signals (or 1s and 0s). It is more precise and less subject to interference than an analog signal (see Analog).

Digital Signals. Signals which consist of a series of discrete elements that have only one value at a time. Digital transmission systems are the heart of most modern communication systems (see Analog).

Directory. A list of files or documents on a computer or a published material that has a listing of names, addresses, phone numbers, and other useful material.

Discussion Group. A group of people who exchange messages about particular topics; often associated with newsgroups.

Distance Learning or Education. Instruction that takes place using telecommunications technologies even though teacher and students are geographically separated. Telecommunications technologies link them on an interdistrict, interstate, intrastate, or international basis.

DOA (Wisconsin Department of Administration). An executive branch agency in Wisconsin that provides leadership to state agencies in fiscal and budget policy, information technology policy and planning, state energy planning, intergovernmental relations, and state procurement activities. DOA provides state agencies with services in telecommunications, mainframe, and related information technologies; print, mail and records management; and state building design, construction, and maintenance.

Document. What a computer user creates with an applications program. Documents store information that the user has inputted using an application software program.

Domain Name. The address or URL of a particular website.

Downlink. The portion of a satellite circuit extending from the satellite to an earth station.

Download. The electronic transferring, or copying, of a file from one computer to another. Files may be downloaded from another connected individual computer, from a computer network, a commercial on-line service, or from the Internet.

DPI (Wisconsin Department of Public Instruction). The official state agency charged with providing direction and technical assistance for public elementary and secondary education in Wisconsin. It offers a broad range of programs and services to local school administrators and faculty. The department distributes state school aids, administers federal program funds that supplement local tax resources, develops curricula, recommends policy for effective school operations, ensures education for children with disabilities, and develops school and public library resources.

Drag. To move a file or folder by holding the mouse button down while simultaneously moving the mouse. Dragging a file or folder provides the computer user with a convenient way to move and organize information.

Drill-and-Practice. A type of computer software meant to supplement the introduction of new material by a classroom teacher. After the introduction of new concepts and ideas, this computer software provides regular review and practice by students of basic concepts and skills.

Driver. A computer program used to control external devices or run other programs. For instance, printers require special driver software programs to control them from a computer.

DVD (Digital Video Disk). A digital storage medium the same physical size as a CD-ROM disk that can store massive amounts of data including graphics and full motion video.

Dynamic Range. The highest and lowest signal levels of a specific audio or video device.

E-Mail (Electronic Mail). A message that is sent electronically from the computer of one person to the computer of another person.

ECB (Wisconsin Educational Communications Board). A state agency that plans, develops, constructs, and operates statewide public radio, public television, and educational communication systems.

Electronic Literacy. The ability to search, retrieve, organize, employ, and evaluate information derived from electronic information resources.

Encyclopedia. A general reference source (print, nonprint, or electronic) that contains information on all subjects or is limited to a specific subject.

Equity. In the context of instructional technology, refers to the availability of instructional technology to all students regardless of socioeconomic status, culture, locale, gender, age, or race.

Ergonomics. Design principles for tools, workstations, furniture, etc., relating to the comfort, efficiency, and safety of users.

ETN (Educational Teleconference Network). A statewide instructional telephone network managed by the Instructional Communications Systems (ICS) of the University of Wisconsin-Extension.

Expansion Card. A circuit board or card that when inserted into a computer allows that computer to perform an additional function or functions.

Expansion Slot. Physical slots or sets of pins inside a computer where expansion cards may be installed to enhance a computer's capacity or enable that computer to perform additional functions.

Expert System. A program that does things for a user like filtering e-mail and finding web sites to suit the users interests; also called an intelligent agent or agent.

Facsimile Machine (Fax). An electronic device that transmits written or graphic information over telephone lines to other locations.

Fair Use. Provisions in the U. S. Copyright Code providing for limited use of copyrighted materials for educational purposes.

Fax. A telecommunications device used to send facsimiles of documents over telephone lines to other fax machines or computers. Fax machines use a combination of photocopier and modem technologies (see Facsimile Machine).

Fiber Optics. A technology for transmitting voice, video, and data via light over thin fibers of glass. This technology has much greater bandwidth capacity than conventional cable or copper wire.

Field. A database term for a specific area of a bibliographic or database record containing specific identifying characteristics of an item (e.g., date field, name field, or author field).

File Compression. Software that makes files smaller than their original size so they take up less space on a disk or other storage medium.

File Server. Computers with large storage devices on a network that store files and software that can be shared by users on the network (see Server).

File Sharing. The ability to share files with other computers on the same network.

File. Information, often a document or an application, saved on a disk or other storage medium.

Footer. The bottom portion of a word processing page that typically contains information such as source or destination, page numbers, date, time of origination, etc. (see Header).

Footprint. The region on the earth to which a communications satellite can transmit.

Frame. A single, complete picture in a video recording.

Freeware. Software, usually available via the Internet or other on-line service, that is free to download and use by individual computer owners. Freeware is not always free for organizations or agencies that may want to use the product, however.

Frequency. The number of cycles per second of an electromagnetic transmission, usually described in hertz.

Frequency Response. The frequency range over which signals are reproduced within a specific amplitude range. The frequency response of the human ear, for instance, is from about 20 to 20,000 hertz (Hz).

FTP (File Transfer Protocol). A standard protocol for sending computer files from one computer to another on the Internet.

FTP Site. A computer dedicated to the storage of files, usually organized by subject, that can be accessed through anonymous FTP or e-mail.

Full-Text Database. An electronic information resource or database that contains entire documents.

Gateway. A device connecting two dissimilar networks that adds security, flow control, and protocol conversion. Gateways typically handle protocol conversion operations across a wide

spectrum of communications function or layers, and they require software programming and central management.

Genlock. A device that synchronizes one video source with another for mixing and recording.

Genre. A distinctive type or category of literary composition, such as poetry, essay, short story, etc.

GIF (Graphic Interchange Format). A widely used format for image files.

Gigabyte. One billion bytes.

Graphing Calculator. A calculator with a larger than average screen that provides a visual representation of plotted data.

GUI (Graphical User Interface). An alternative to character-based computer interfaces, such as MS-DOS. The Macintosh OS and Microsoft Windows are two popular examples of GUI's.

Hardware. Physical equipment components or devices.

Header. The top portion of a word processing page that typically contains information such as the source or destination, chapter title, length of message, date, time of origination, etc. (see Footer).

Hertz. A unit of frequency equal to one cycle per second (cps). One kilohertz equals 1,000 cps; one megahertz equals one millions cps; one gigahertz equals one billion cps.

Hits (Matches). Terms used to describe the locating of relevant information that corresponds to specific search terms.

Home Page. The first or introductory page that appears when accessing a World Wide Web site. The home page often provides the table of contents to a specific website.

Hotlist. A list of frequently accessed, popular, or best World Wide Web sites on a single topic or subject.

HTML (HyperText Markup Language). The computer language used to design, or write World Wide Web pages or websites.

HTTP (HyperText Transfer Protocol). The means or computer protocol by which people using the World Wide Web and web servers communicate with one another.

Hub. An equipment piece that connects two or more devices together in order for them to communicate on a network.

Hypermedia. A software program that contains dynamic links to other media, such as audio, video, or graphics files. The World Wide Web is made up of hyperlinked web pages.

Hypermedia Program. A software program that provides dynamic links and seamless access to text, graphics, audio, and video images.

Hypertext. A system of writing and displaying text that enables the text to be linked at several levels of detail, and to contain links to related documents or sites. Hypertext is key words or phrases in a WWW page that are "linked" electronically to other websites or pages on the Internet.

Icon. A symbol that provides a visual representation of an action or other information. For example, a representation of an arrow on a computer screen or desktop is often used to denote directional movement (forward or back) in many software programs. Clicking on the arrow with a mouse will take the user in the direction indicated by the arrow.

ILS (Integrated Learning System). A complete software, hardware, and network system used for instruction. In addition to providing the curriculum and lessons organized by level, an ILS usually includes a number of tools such as assessment components, record keeping, and user information files that help to identify learner needs, monitor progress, and maintain student records.

Information. Knowledge communicated or received concerning a particular fact or circumstance; facts, data, images, or sounds which may be unorganized or even unrelated.

Information Literacy. The ability to access, evaluate, and use information from a variety of sources.

Initialize. A means of preparing a disk to receive information by organizing its surface into tracks and sectors; same as formatting a disk. Initializing a disk that already holds information will erase the information.

Installer. A program used to update or install software.

Interface. The way in which a computer communicates with external devices or with the user (e.g., printer interface, human interface, user interface).

Intellectual Property Rights. The concept that the creator of an idea or expression of an idea in any format retains ownership of that idea or expression.

Interlibrary Loan. A service provided by many libraries and information agencies that enables a user to obtain copies of articles and borrow books and other media materials from other libraries and information centers.

Internet. The huge world-wide network or "network of networks" of government, business, and university computers. Currently, there is only one Internet, but due to the huge (and growing) numbers of sites coupled with slow access speeds, others are being planned.

Interoperability. The ability to connect to and exchange data with other hardware and software systems.

IP (Internet Protocol). A common layer or protocol used on the Internet to connect dissimilar networks.

Intranet. A private network inside a company or organization that uses the same kinds of software that you would find on the Internet, but that it is only for internal use.

I/O (Input/Output). The processes involved in transferring information into or out of a central processing unit or computer.

ISBN (International Standard Book Number). A 10-digit unique number assigned to each book published to identify the publisher, title, edition, and volume.

ISSN (International Standards Serial Number). A distinctive number assigned to a serial publication.

ISTE (International Society for Technology in Education). A major international professional association for computer and technology educators, MIS (Management Information Systems) professionals, and technology directors and coordinators.

Journal. A periodical publication that contains scholarly articles written by professionals, researchers, and other experts in a particular field.

JPEG (Joint Photographics Experts Group). A common computer file format for images.

K (Kilobyte). 1,024 bytes (see Byte).

Kilohertz. 1,000 hertz.

Keyword. A significant identifying word from the title, subject, or content of a particular document or file.

Keyword Searching. In a search, using significant words that describe a subject under which entries for all documents or publications on the subject are filed in a catalog, bibliographic record, or electronic resource.

kHz (Kilohertz). Unit of measurement of frequency or cycles per second; equal to 1,000 hertz.

Knowledge. The acquaintance with facts, truths or principles as the result of a study or investigation; familiarity with a particular subject or branch of learning; an organized body of information or the comprehension or understanding consequent on having acquired or organized a body of facts.

LAN (Local Area Network). A number of computers and other peripheral devices connected to a file server for the purpose of sharing resources, such as software applications, files, peripherals, and services. A LAN usually refers to a network in one room or building.

Laserdisc. A plastic disk or platter that can have text, video, and graphic images encoded in a series of microscopic pits engraved in the disk; also known as a videodisc. Laserdiscs are read by special players which transmit a laser beam onto the disks.

LCD (Liquid Crystal Display). A popular presentation technology in flat panel display systems used in conjunction with overhead projectors (LCD projection panels); also used in laptop computer screens and in video/data projectors.

LEA (Local Educational Agency). The official designation or title of a local school district in Wisconsin.

Limiters. Words or terms that limit or "narrow" a search of an electronic or on-line database or service.

Link. A connection from one place or medium to another. For example, button or underlined print that when clicked on takes you to another website or page on the Internet.

Listserv. A powerful software program for combining and automating mailing lists and discussion groups on a computer network or the Internet. A form of one-to-many communication using e-mail.

Log In or Log On. The process of establishing a connection over a network or modem with a remote computer so that the user's computer may exchange information.

Log Off. The process of terminating a connection to an computer or network.

Logo. A name, symbol, or trademark of a company or publication borne on one printing plate or piece of type. Today, a logo would be created and printed with a computer and graphics or desktop publishing software.

Macro. A program within a program that allows complex functions to take place with a single keystroke or simple combination of keystrokes.

Magazine. A periodic publication which contains articles, news, advertisements, etc.

Manual of Style. A guide prescribing rules for writing papers and reports including the elements and sequence to be used for citations and bibliographies. Recent manuals of style include information on citations for Internet and electronic resources.

MARC (Machine Readable Cataloging). A standard developed by the Library of Congress and others to define the elements (fields) within a bibliographic record.

Master. The original video or audio recording, as opposed to a dub or copy.

MB (Megabit or Megabyte). 1,000,000 bytes (see Byte).

Media. Formats (e.g., CD-ROM, newspapers, laserdiscs, magazines, films, the Internet) of communication that can be grouped as print, nonprint, or electronic.

Media Literacy. The ability to conduct a critical analysis of images and the sounds, special effects, and text that accompany them. Media literacy also aims to provide students with the ability to create media and multimedia products for specific purposes and audiences.

Media Retrieval Network. An audio and video network for sending and receiving analog audiovisual resources to a remote site, normally a classroom or large group instruction area.

Megabyte. 1 million bytes.

Microfiche. A flat sheet of plastic containing microimage information on a particular subject and requires a microfiche reader or printer for accessing its content.

Microforms. Any materials, film or paper, printed or photographic, containing microimages which are units of information; such as, a page of text or graphics, too small to be read without magnification.

Microwave. High frequency radio waves used for audio, video, and data transmissions; requires clear line of sight between the transmitter and the receiver.

MIDI (Musical Instrument Digital Interface). A standard for communicating information between synthesizers, sequencers, percussion machines, computers, and other electronic musical equipment.

MIPS (Millions of Instructions Per Second). A measure of computer performance.

Modem (Modulator/Demodulator). An electronic device that attaches to a computer and enables it to transmit and receive data from another computer over a telephone line by converting the digital data into sound.

Monitor. A device that is connected to a computer and used to display text and graphics. Monitors are similar to television sets, but use a digital signal rather than an analog signal like television receivers.

Mouse. A pointing and input device that allows the user to control the movement of the cursor to any area of the monitor screen.

MPEG (Motion Picture Experts Group). A digital video file format commonly used on the World Wide Web.

MS-DOS (Microsoft Disk Operating System). The operating system designed for the original IBM and IBM-compatible personal computers.

Multimedia. A general term that usually refers to non-print media that uses a combination of sound, video, animation, pictures, and text.

Multiplexer or MUX. A device that combines two or more signals into a single composite data stream for transmission on a single channel.

Multitasking. The ability to run more than one program at a time on a computer.

Navigate. To move around on the World Wide Web by following hypertext paths from document to document on different computers linked to the WWW and Internet.

Netiquette. The rules of conduct for on-line or Internet users.

Network. Two or more computers that are interconnected in some fashion so that users can share files and devices (e.g., printers, servers, storage devices).

Newsgroups. A part of the Internet that allows users to "post" and "reply to" messages from other users. Newsgroups are the basic unit of organization on the USENET bulletin board of the Internet. Newsgroups are independent discussions on a specific topic.

Node. A termination point for two or more communications links. In local area networks it also refers to a computer or single PC on a network.

Noise. In audio, electrical interference or unwanted sound. In video, this interference appears as "snow" on a television set or monitor.

Nonprint Media. Audio and video formats of communication (e.g., films, video tapes, audio cassettes). The three types of media formats are print, nonprint, and electronic.

OCLC (On-line Computer Library Center). Located in Dublin, Ohio, and is an international bibliographic utility used by libraries for cataloging, interlibrary loan, acquisitions, and other related services. Over 10,000 libraries in 40 countries are members of OCLC.

On-line. The state a computer is in when it is connected to another computer or server via a network; a computer communicating with another computer.

On-line Catalog. A computerized listing that enables users to access the record of holdings of a particular library, library network, or information agency or service.

OPAC (On-line Public Access Catalog). An on-line information retrieval system that helps users access the holdings of a library or other information agency.

Open. A command that makes a file available so that a user can modify its contents, display it on screen, or send its contents to a printer or other network device for output.

Operating System. The program that organizes and manages the internal activities and functions of a computer and peripheral devices.

OS (Operating System). The operating system or system management program of a computer (see Operating System).

Packet. A unit of data that is transmitted at the network layer. It is also commonly used to denote an envelope of data bundled with addressing information for transmission over a network.

Password. A secret combination of letters and other symbols needed to log in to a computer system.

Patent. An official document issued by a government granting an inventor (individual or organization) the right to make, produce, and manufacture an invented material for a given number of years.

PC (Personal Computer). Before the arrival of the IBM-PC, most PCs were called microcomputers. After the arrival of the IBM-PC, the term PC came to be applied to all personal computers, even those not produced by IBM.

Performance Standard. Tells how students will show that they are meeting a content standard.

Peripheral Device. A device outside the user's computer (e.g., modem, disk drive, printer) that is connected to and under the computer's control.

Pixel. A single dot or point of an image on a computer screen. Pixel is a contraction of the words “picture element.”

PK-12. Elementary, middle, and secondary schools ranging in grades from pre-kindergarten to grade 12.

Port. An interface on a computer, terminal, network, or other electronic device for the transferring of data; also a point of access into a communications switch.

Primary Source. First-hand information or information in original or first-published format.

Proficiency Standard. Indicates how well students must perform on a content standard.

Program. A set of instructions describing operations for a computer to perform to accomplish a task. Computer programs are commonly referred to as software (see Software).

Projection System. A large screen system to show video, television, or computer images.

Proprietary. Belonging to a single corporation or agency. In the context of technology, proprietary usually refers to a set of protocols used by only one or a limited number of companies, as opposed to standards that are shared by a large part of a particular industry.

Protocol. A standard set of procedures that regulates how computers communicate and exchange information.

Pull-Down Menu. A menu (commonly found in the menu bar) whose name and/or icon is shown. Essentially, a user pulls down the menu by pointing at, pressing down the mouse button, and dragging the mouse until he/she reaches the option to be selected and then releasing the mouse button.

Pull Technology. In reference to the Internet or other on-line services, pull technology is where users, utilizing software such as a web browser, are required to locate and "pull down" the information for themselves.

Push Technology. In reference to the Internet or other on-line services, push technology is like e-mail. When you log on to a computer there will likely be e-mail waiting for you. Push technology uses sophisticated software and "agents" that will operate in the background, search and retrieve information needed by the user, and place that information in a mailbox or directory on the user's computer. Also known as broadcasting.

QuickTime. An integrated, cross-platform architecture for multimedia production and playback developed by Apple Computer, Inc.

RAM (Random Access Memory). The memory the computer uses to temporarily store information that the microprocessor needs to operate a computer program. The amount of RAM determines the number of programs that can be open on a computer simultaneously.

Real Time. Communication where information is received at (or nearly at) the instant it is being sent.

Receive Site. A location that can receive transmissions from another site for distance learning.

Repeater. A device that boosts an electrical signal thus increasing the transmission distance possible.

Research. Careful study, investigation, and experimentation aimed at discovering or interpreting facts to create new knowledge or understandings on the part of the researcher.

Resolution. The clarity or graininess of a video or computer image as measured by lines (of resolution) or pixels; the smallest resolvable detail in an image.

ROM (Read-Only Memory). ROM stores special instructions that the computer needs in order to operate properly. As the name implies, information stored in ROM is never changed, only read as needed by the computer.

Router. A hardware module and component of a network which receives transmissions and forwards them to their intended destinations by the shortest route possible.

Save. Storing information by transferring it from main memory (RAM) to a disk or other storage medium or device.

Satellite Dish. A dish-like device for sending and/or receiving signals from a satellite.

Scan Rate. The speed with which the electron beam scans the picture tube.

Scanner. A device that converts a printed page or image into an electronic representation that can be viewed and manipulated on a computer. Scanners are often used to convert photographs into electronic representations so that they can be included in documents created on a computer.

Scroll. Using scroll arrows, scroll bars, or scroll boxes allows a computer user to move vertically or horizontally within a window thereby enabling the user to view more of a document or directory.

SEA (State Education Agency). The agency primarily responsible for the state supervision of public elementary and secondary education. In Wisconsin, this is the Department of Public Instruction.

Search Engine. An Internet site and software program that allows for keyword searching of on-line information.

Search Strategy. The organized plan by which an on-line user conducts a search of an electronic information resource. It usually involves the use of Boolean operators to increase search precision.

Secondary Source. Information contained in, or taken from, general or compiled published sources.

Serial. A publication that is issued in successive pieces and intended by its publishers to continue indefinitely.

Server. A central computer with special software that provides services to other computers on a network (see file server).

Service Provider. An organization that provides network access to users via modem or some sort of high capacity network connected via coaxial or fiber optic cable.

Session. A period during which a connection exists between two points in a network so that commands or data may be exchanged.

Shareware. A category of software usually available over the Internet or other on-line services that is shared by publishers with the general public. Shareware is not free. Publishers ask that if you like the product and plan to use it, you send the author the required fee. The collection of shareware fees is based largely on the honor system.

Signal-to-Noise Ratio. A measurement of noise introduced in an audio component expressed as the difference in decibels between the desired signal and the unwanted noise.

Simulation. A software program that imitates reality, involves a realistic setting, and presents students with a problem or series of problems and choices. The program presents students with opportunities for inquiries, actions and decisions, and shows them how their actions and decisions change the way the simulation evolves. The best simulations allow students to control events that are realistic, making decisions with consequences that teach them actual, probable outcomes they may encounter in real life.

Software. A set of instructions, procedures, and related documentation on a disk, file, or CD-ROM which when input into a computer cause it to perform certain actions or functions.

Still Frame. A single frame of video information; sometimes called a freeze frame.

Storage Device. An equipment item, like a hard disk drive, in which digital information (voice, video and data) can be recorded and stored for future use.

Storage Medium. A media item, like a diskette, CD-ROM, or laserdisc, on which digital information (voice, video, and data) can be recorded and stored for future use.

Switch. A hardware device that routes packets of information across a network.

Synthesize. To combine the parts or elements so as to form a coherent whole; to combine so as to form a new, complex product.

Synthesizer. An electronic device for creating musical sounds and sound effects.

TCP/IP (Transmission Control Protocol/Internet Protocol). A protocol for the transmission of electronic data from one computer to another. TCP/IP is currently the de facto transmission protocol for the Internet.

Technology. The application of knowledge, tools, and skills to solve practical problems and extend human capabilities. Technology is best described as a process, but it is more commonly known by its products and their effects on society.

Technology Literacy. The ability to use, manage, and understand technology.

Telecommunications. The exchange of voice, video, or data through digital or analog electromagnetic or electronic signals (e.g., radio, telephone, television, facsimile, computer/modem).

Teleconference. Communication via audio, video, or computer between two or more groups in separate locations.

Thesis Statement. A position or proposition which is advanced and is to be supported by information and evidence.

Throughput. The rate at which data may be transferred from one computer to another via some sort of electronic medium. Usually measured in bits per second, kilobytes per second, or megabytes per second.

Topology. The physical layout of a network. It refers to the way in which transmission technologies are interconnected to form a complete system.

Track. The location or path of a recorded signal on a tape or disk.

Trademark. A name, symbol, word, figure, letter, or mark adopted and used by a manufacturer, business firm, or agency in order to designate the products the firm manufactures or sells and to distinguish them from other products. Any trademark is entitled to be registered under the provisions of a government statute so that it can only be used by the firm who registered it.

Transponder. The equipment on a satellite that receives the signal, amplifies it, and then retransmits it to receiving stations on the earth.

Trees. A visual method of linking information that follows a tree-like pattern with major concepts as trunk, limbs, branches, and leaves as extensions or sub-units of main concepts.

Tutorial. Software that attempts to present new concepts and information to students and then helps them to understand the concepts and develop skill in using them. The program provides periodic checks on a student's progress and will then "branch" them to the appropriate next step in the learning process. Sometimes, this means a student will advance to a higher level, or be sent back in the program to review concepts or skills that should have been previously learned.

Uplink. The portion of a satellite circuit or a satellite dish which transmits signals from a ground station to the satellite.

Upload. To send a file to another computer or server.

URL (Uniform Resource Locator). The address and method used to locate a specific resource or single document on the World Wide Web or Internet.

User ID. A unique number or name or both that is associated with a user name on a server system.

User Interface. The system of computer screen images, devices, and software components that allow the user to interact with and control the computer's operating system. Graphical user interfaces (GUI) allow the user to interact with the OS by manipulating icons or visual

menus via a mouse. Command-line interfaces allow user to interact with the OS by entering commands from the keyboard.

VCR. Abbreviation for videocassette recorder, a device used to record and play video programs.

Version. In reference to computer software programs, a number that states a program's chronological position relative to old and new releases of the program.

Video Adapter. A board or card that plugs into a slot connected to the computer's main circuit board and allows the computer to display text and graphics on a monitor.

Video Conferencing. Using video and audio signals to link participants at different and remote locations for a specific purpose.

Virtual Memory. A function that allows a computer to use a specified amount of hard disk space as if it were RAM.

Virtual Reality. Highly realistic computer simulations that use 3-dimensional displays to create the impression of being inside a place.

Virus. A destructive type of computer program that attempts to disrupt the normal operation of a computer, re-write, or delete information from storage devices, and in some cases, cause physical damage to the computer.

Virus Detection Program. A software program to detect, diagnose, and destroy computer viruses.

Visual Literacy. The ability to recognize and understand ideas conveyed through visible actions or images.

WAN (Wide Area Network). A network of LANs (local area networks) linked by backbone cabling for the purpose of electronically connecting several sites or buildings.

WASL (Wisconsin Association of School Librarians). A division for school librarians in the Wisconsin Library Association (see WLA).

WAV. A common sound file format often used in conjunction with the World Wide Web.

Web Page. A single on-line document or screen containing information that can be accessed over the World Wide Web (WWW).

Webbing. A visual method of linking ideas to one another in a web-like pattern.

Website. An entire location or site of a business, agency, organization, or individual on the World Wide Web. A website may consist of several web pages.

WECB (Wisconsin Educational Communications Board). A state agency that plans, develops, constructs, and operates statewide public radio, public television, and educational communication systems.

WEMA (Wisconsin Educational Media Association). The largest K-12 library media and educational technology association in Wisconsin.

Window. A computer monitor's screen or portion of the screen that displays information on the desktop. Windows enable the user to view the contents of disks as well as to create and view documents. Most windows include scroll bars that allow the user to move up and down and right or left in a document and buttons that allow you to close the window or make the window smaller or larger.

Windows. A graphical user interface (operating system) for IBM and IBM-compatible personal computers. Windows is a product of Microsoft Corporation.

WISTE (Wisconsin Society for Technology in Education). A professional association in Wisconsin for computer and technology educators and coordinators.

WLA (Wisconsin Library Association). The largest library association in Wisconsin with members from academic, public, school, and special libraries.

Workstation. A device, often a personal computer, that serves as an interface between a user and a file server or host computer.

World Wide Web. A web-like interconnection of millions of pieces of information and documents located on computers around the world. Web documents use a hypertext language which incorporates text, sound, and graphical images and "links" to other documents and files on Internet-connected computers. The WWW allows for "point-and-click" navigation of the Internet.

WPM (Words Per Minute). Refers to the number of words a student can type or keyboard in one minute.

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#2 - National Technology Standards for Students

Traditional educational practices no longer provide students with all the necessary skills for economic survival in today's workplace. Students must apply strategies for solving problems and use appropriate tools for learning, collaborating, and communicating. Today's learning environments must incorporate strategies and tools that prepare students for their futures. The following chart lists characteristics representing traditional approaches to learning and corresponding strategies often associated with new learning environments.

Establishing New Learning Environments Incorporating New Strategies

Traditional Learning Environments	New Learning Environments
• Teacher-centered instruction	• Student-centered learning
1. Single sense stimulation	2. Multisensory stimulation
3. Single path progression	4. Multipath progression
5. Single media	6. Multimedia
7. Isolated work	8. Collaborative work
9. Information delivery	10. Information exchange
11. Passive learning	12. Active/exploratory/inquiry-based learning
13. Factual, knowledge-based	14. Critical thinking and informed decision-making
15. Reactive response	16. Proactive/planned action
17. Isolated, artificial context	18. Authentic, real-world context

The most effective learning environments meld traditional approaches and new approaches to facilitate learning of relevant content while addressing individual needs. The resulting learning environments should prepare students to:

2. Communicate using a variety of media and formats.
3. Access and exchange information in a variety of ways.
4. Compile, organize, analyze, and synthesize information.
5. Draw conclusions and make generalizations based on information gathered.
6. Use information and select appropriate tools to solve problems.
7. Know content and be able to locate additional information as needed.
8. Become self-directed learners.
9. Collaborate and cooperate in team efforts.
10. Interact with others in ethical and appropriate ways.

Technology Foundation Standards for All 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 found within the Profiles for Technology Literate Students (pages 7-16) 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.
 2. Students demonstrate a sound understanding of the nature and operation of technology systems.
 2. Students are proficient in the use of technology.
2. Social, ethical, and human issues.
 2. Students understand the ethical, cultural, and societal issues related to technology.
 3. Students practice responsible use of technology systems, information, and software.
 4. Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.
3. Technology productivity tools
 2. Students use technology tools to enhance learning, increase productivity, and promote creativity.
 3. Students use productivity tools to collaborate in constructing technology enhanced models, preparing publications, and producing other creative works.
4. Technology communications tools.
 - 3) Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.
 - 4) Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.
5. Technology research tools
 1. Students use technology to locate, evaluate, and collect information from a variety of sources.
 2. Students use technology tools to process data and report results.
 3. Students evaluate and select new information resources and technological innovations based on the appropriateness to 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.

Profile for Technology Literate Students - Grades PreK - 2

Performance Indicators:

All students should have opportunities to demonstrate the following performances.

Prior to completion of Grade 2 students will:

1. Use input devices (e.g., mouse, keyboard, remote control) and output devices (e.g., monitor, printer) to successfully operate computers, VCRs, audio tapes, telephones, and other technologies. (1)
2. Use a variety of media and technology resources for directed and independent learning activities. (1, 3)
3. Communicate about technology using developmentally appropriate and accurate terminology. (1)
4. Use developmentally appropriate multimedia resources (e.g., interactive books, educational software, elementary multimedia encyclopedias) to support learning. (1)
5. Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom. (2)
6. Demonstrate positive social and ethical behaviors when using technology. (2)
7. Practice responsible use of technology systems and software. (2)
8. Create developmentally appropriate multimedia products with support from teachers, family members, or student partners. (3)
9. Use technology resources (e.g., puzzles, logical thinking programs, writing tools, digital cameras, drawing tools) for problem solving, communication, and illustration of thoughts, ideas, and stories. (3, 4, 5, 6)
10. Gather information and communicate with others using telecommunications, with support from teachers, family members, or student partners. (4)

Numbers in parentheses following each performance indicator to the standards category to which the performance is linked.

The categories are:

1. Basic operations and concepts
2. Social, ethical, and human issues
3. Technology productivity tools
4. Technology communications tools
5. Technology research tools
6. Technology problem-solving and decision-making tools

Performance Indicators:

All students should have opportunities to demonstrate the following performances.

Prior to completion of Grade 5, students will:

1. Use keyboards and other common input and output devices (including adaptive devices when necessary) efficiently and effectively. (1)
2. Discuss common uses of technology in daily life and advantages and disadvantages those uses provide. (1, 2)
3. Discuss basic issues related to responsible use of technology and information; and describe personal consequences of inappropriate use. (2)
4. Use general purpose productivity tools and peripherals to support personal productivity, to remediate skill deficits, and to facilitate learning through-out the curriculum. (3)
5. Use technology tools (e.g., multimedia authoring, presentation, web tools, digital cameras, scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom. (3, 4)
6. Use telecommunications efficiently and effectively to access remote information and communicate with others in support of direct and independent learning and for pursuit of personal interests. (4)
7. Use telecommunications and on-line resources (e.g., email, online discussions, web environments) to participate in collaborative problem solving activities to develop solutions or products for audiences inside and outside the classroom. (4, 5)
8. Use technology resources (e.g., calculators, data collection probes, videos, educational software) for problem-solving, self-directed learning, and extended learning activities. (5, 6)
9. Determine when technology is useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems. (5, 6)

10. Evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources. (6)

Numbers in parentheses following each performance indicator refer to the standards category to which the performance is linked.

The categories are:

1. Basic operations and concepts
2. Social, ethical, and human issues
3. Technology productivity tools
4. Technology communications tools
5. Technology research tools
6. Technology problem-solving and decision-making tools

Profile for Technology Literate Students - Grades 6/8

Performance Indicators:

All students should have opportunities to demonstrate the following performances.

Prior to completion of Grade 8 students will:

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 simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools) to support learning and research. (3, 5)
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, video tapes) 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 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)

Numbers in parentheses following each performance indicator refer to the standards category to which the performance is linked.

The categories are:

1. Basic operations and concepts
2. Social, ethical, and human issues
3. Technology productivity tools
4. Technology communications tools
5. Technology research tools
6. Technology problem-solving and decision-making tools

Profile for Technology Literate Students – Grades 9/12

Performance Indicators:

All students should have opportunities to demonstrate the following performances.

Prior to completion of Grade 12 students will:

1. Identify capabilities and limitations of contemporary and emerging technology resources and assess the potential of these systems and services to address personal, lifelong learning, and workplace needs. (2)
2. Make informed choices among technology systems, resources, and services. (1, 2)
3. Analyze advantages and disadvantages of widespread use and reliance on technology in the workplace and in society as a whole. (2)
4. Demonstrate and advocate legal and ethical behaviors among peers, family, and community regarding the use of technology and information. (2)
5. Use technology tools and resources for managing and communicating personal/professional information (e.g., finances, schedules, addresses, purchases, correspondence). (3, 4)
6. Evaluate technology-based options, including distance and distributed education, for lifelong learning. (5)
7. Routinely and efficiently use on-line information resources to meet needs for collaboration, research, publications, communications, and productivity. (4, 5, 6)

8. Select and apply technology tools for research, information analysis, problem-solving, and decision-making in content learning. (4, 5)
9. Investigate and apply expert systems, intelligent agents, and simulations in real-world situations. (3, 5, 6)
10. Collaborate with peers, experts, and others to contribute to a content related knowledge base by using technology to compile, synthesize, produce, and disseminate information, models, and other creative works. (4, 5, 6)

Numbers in parentheses following each performance indicator refer to the standards category to which the performance is linked.

The categories are:

1. Basic operations and concepts
2. Social, ethical, and human issues
3. Technology productivity tools
4. Technology communications tools
5. Technology research tools
6. Technology problem-solving and decision-making tools

#3 - Information Literacy Standards for Student Learning

Standard 1: The student who is information literate accesses information efficiently and effectively.

1. Recognizes the need for information.
2. Recognizes that accurate and comprehensive information is the basis for intelligent decision making.
3. Formulates questions based on information needs.
4. Identifies a variety of potential sources of information.
5. Develops and uses successful strategies for locating information.

Standard 2: The student who is information literate evaluates information critically and competently.

1. Determines accuracy, relevance, and comprehensives.
2. Distinguishes among facts, points of view, and opinion.
3. Identifies inaccurate and misleading information.
4. Selects information appropriate to the problem or question at hand.

Standard 3: The student who is information literate uses information accurately and creatively.

1. Organizes information for practical application.

2. Integrates information into one's own knowledge.
3. Applies information in critical thinking and problem solving.
4. Produces and communicates information and ideas in appropriate formats.

Standard 4: The student who is an independent learner is information literate and pursues information related to personal interests.

1. Seeks information related to various dimensions of personal well-being, such as career interests, community involvement, health matters, and recreational pursuits.
2. Designs, develops, and evaluates information products and solutions related to personal interests.

Standard 5: The student who is an independent learner is information literate and appreciates literature and other creative expressions of information.

1. Is a competent and self-motivated reader.
2. Derives meaning from information presented creatively in a variety of formats.
3. Develops creative products in a variety of formats.

Standard 6: The student who is an independent learner is information literate and strives for excellence in information seeking and knowledge generation.

1. Assesses the quality of the process and products of personal information seeking.
2. Devises strategies for revising, improving, and updating self-generated knowledge.

Standard 7: The student who contributes positively to the learning community and to society is information literate and recognizes the importance of information to a democratic society.

1. Seeks information from diverse sources, contexts, disciplines, and cultures.
2. Respects the principle of equitable access to information.

Standard 8: The student who contributes positively to the learning community and to society is information literate and practices ethical behavior in regard to information and information technology.

1. Respects the principles of intellectual freedom.
2. Respects intellectual property rights.
3. Uses information technology responsibly.

Standard 9: The student who contributes positively to the learning community and to society is information literate and participates effectively in groups to pursue and generate information.

1. Shares knowledge and information with others.
2. Respects others' ideas and backgrounds and acknowledges their contributions.
3. Collaborates with others, both in persona and through technologies, to design, develop, and evaluate information products and solutions.

Appendix B

WATERTOWN UNIFIED SCHOOL DISTRICT COPYRIGHT POLICY

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INTRODUCTION

The Watertown Unified School District Board of Education (“District”) is committed to achieving full compliance among staff members and students in the District with respect to the federal laws governing the reproduction of copyrighted materials. The administrative policy set forth below was adopted by the Board to provide an overview of, and guidelines for complying with, the federal Copyright Act of 1976 and applicable regulations.

This policy covers all copyrighted materials used in the District schools. All District staff members are expected to familiarize themselves with this policy and to abide by its terms.

The Copyright Act of 1976, which is Title 17 of the United States Code, is sometimes referred to below as the “Act” or the “Copyright Law.”

ARTICLE I

DISTRICT COPYRIGHT POLICY

A. Specific Guidelines

1. In-service Training. The District shall provide all staff members with in-service training, information and materials regarding the copyright law.

2. Acquisition of Rights. The District shall assist staff members in acquiring rights to copyrighted materials.

3. Copyright Notices and Warnings. Appropriate copyright notices and warnings shall be placed on all copying equipment.

4. Unauthorized Duplication. Duplicating copyrighted materials without permission from the copyright holder is strictly prohibited, except under the provisions of “fair use.”

5. Prohibited Use of Equipment. Using District equipment to violate the copyright law is strictly prohibited.

6. No Substitution for Purchase. Except as otherwise expressly permitted under this policy, copying copyrighted material to substitute for the purchase of that material shall be prohibited.

7. Readings and Performances. Distributing, transmitting or undertaking a reading or performance of a copyrighted work without the copyright holder's permission shall be prohibited, except under the provisions of "fair use".

8. Prohibition Against Ordering Violations. No employee shall order any violation of the copyright law.

9. Building Manager's Responsibility. Each building manager shall be responsible for establishing practices in accordance with this policy.

10. Compliance with the Act. These guidelines and the following overview of the federal copyright law are not comprehensive, and a staff member's familiarity with them does not absolve the staff member from complying with all aspects of the Act.

ARTICLE II

OVERVIEW OF FEDERAL COPYRIGHT LAW

A. Copyright Protection

1. Rights of Copyright Holders. Section 106 of the Act grants copyright holders (that is, authors and other creators and publishers) the exclusive right to do, or to allow others to do, each of the following acts with respect to their copyrighted works:

- a. Reproduce all or any part of the works;
- b. Prepare new or derivative versions;
- c. Sell, rent, lease, lend or otherwise distribute copies; and
- d. Perform and display the works publicly.
 - i. Copyright infringement occurs when someone violates any of these exclusive rights.

- ii. These rights are not unlimited in scope, however; one major limitation is the doctrine of “fair use,” which is described below.

2. Commencement of Copyright Protection. The Act provides that copyright protection begins the moment the work is created and fixed in some form; that is, it arises from the mere creation of the work and its fixation in some tangible medium.

- a. Publication is not required. Copyright protection covers both published and unpublished works.
- b. Registration is not required. Copyright protection covers works that have not been registered with the U. S. Register of Copyrights (the “Copyright Office”) (which is part of the Library of Congress). Registration is required, however, in order to file a federal copyright infringement action and to recover statutory damages or attorneys’ fees. Once the work is registered, though, the copyright owner can institute a federal lawsuit for infringements which occurred before registration.
- c. Copyright notice is not required since a work fixed in a tangible medium is now protected by the Copyright Law upon creation. Copyright notice was required before the enactment of the Copyright Act of 1976.

B. Works Protected by Copyright

- 1. Statutory Definition of Protected Works. Copyright protects “original works of authorship” which are “fixed in a tangible medium of expression.”
- 2. Categories of Protected Works. Copyrightable works include the following broad categories:
 - a. Literary works, including computer software and databases, and reference works such as dictionaries and encyclopedias;
 - b. Musical, choreographic and dramatic works;
 - c. Pictorial, graphic and sculptural works, including maps;

- d. Motion pictures and other audiovisual works, including videotapes; and
 - e. Sound recordings.
3. Unprotected Works. Works that do not qualify for protection under the Copyright Law are in the “public domain” and may be freely copied.

C. Duration of Copyright Protection

1. Works Created After January 1, 1978. For works created on or after January 1, 1978, the copyright ordinarily lasts for the life of the author plus 50 years. For works made for hire (works, for example, made by an employee for an employer), and for anonymous and pseudonymous works, the duration of copyright is 75 years from publication or 100 years from creation, whichever is shorter.
2. Works Published or Registered Before 1978. Under the law in effect before 1978, copyright protection for published or registered works was secured either on the date of publication or, if the work was registered in unpublished form, on the date of registration. The copyright term was 28 years, and was renewable for one subsequent 28 year period. The current copyright law has extended the renewal term to 47 years for copyrights that existed on January 1, 1978, thus extending their term to 75 years.
3. Other Works. Sections 302 through 304 of the Act govern the duration of copyright protection for anonymous and pseudonymous works, and for works that were created, but were not published or registered, before 1978. Since these Sections are complex, a staff member intending to use or copy a work whose duration of copyright is not set forth in Sections C.1 or C.2., above, should immediately contact the District Copyright Coordinator for guidance in complying with the Copyright Law.

D. Copyrights in Government Works

1. U.S. Government. Generally, the United States cannot copyright works created by the federal government. The Act defines a “work of the United States Government” as one that is prepared by an officer or employee of the U.S. government as part of that person’s official duty. Such a work is considered to be in the public domain and no copyright protection is available to the federal government or any person who subsequently copies it. However, the U.S. government may receive and hold copyrights

that are transferred to it by assignment, bequest, gift or otherwise. The U.S. Postal Service also may use the Copyright Law to prevent copying of postage stamp designs for private or commercial non-postal uses. Likewise, the Secretary of Commerce may copyright standard reference data written by the United States.

2. State. Local and Foreign Governments. Generally, works prepared by officers or employees of any government (except the U.S. government), including state, local and foreign governments, are subject to copyright protection. In addition, the Copyright Law specifies that works first published by the United Nations or any of its specialized agencies are subject to copyright protection.

E. “Fair Use” Limitation on Copyright Protection

1. Application of Fair Use. Many provisions of the Act apply to the educational uses of copyrighted materials, but the most generally applicable are those provisions that establish the doctrine of “fair use,” set forth under Section 107 of the Act.
2. Fair Use Criteria. The doctrine of fair use allows the limited use of a copyrighted work, including its reproduction, without the copyright owner’s permission for such purposes as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship and research. Section 107 establishes four basic factors which are considered together when determining whether or not a use constitutes a copyright infringement:
 - a. The purpose and character of the use (e.g., is the copying done for commercial or educational purposes?);
 - b. The nature of the copyrighted work (e.g., was the original work intended to be a “consumable” workbook, for example?);
 - c. The amount and substantiality of the portion used (e.g., how much is being copied? How important is the copied part to the entire work? How many copies are being made?);
 - d. The effect of the use upon the potential market for or value of the copyrighted work (e.g., will the copyright owner suffer financial loss?);

No one factor is determinative of a person's right to use a copyrighted work without permission. Educational use alone is not sufficient to make a use a fair use. The foregoing fair use criteria should be applied to each intended use before copying any copyrighted materials.

ARTICLE III

FAIR USES OF COPYRIGHTED MATERIALS

A. Literary Works and Printed Materials

1. Single Copy. A staff member may make, or have made at his or her request, a single copy of the following works for research or teaching purposes, without the copyright holder's permission:
 - a. A chapter from a book;
 - b. An article from a periodical or newspaper;
 - c. A short story, short essay or short poem; and
 - d. A chart, graph, diagram, drawing, cartoon or picture from a book, periodical or newspaper.
2. Multiple Copies. A staff member may make, or have made at his or her request, multiple copies of a copyrighted work without the copyright holder's permission under the following circumstances:
 - a. The opportunity to use the copyrighted work for maximum teaching effectiveness does not allow enough time to receive a reply to a request for permission before such use.

and

- b. The following limits are observed when copying the types of works below:
 - i. A complete article story or essay must contain fewer than approximately 2,500 words.

- ii. An excerpted prose work must be no longer than approximately 1,000 words or 10% of the entire work, whichever is shorter.
- iii. No more than one illustration, chart, graph, diagram, drawing, cartoon or picture is copied per book or per periodical.
- iv. A poem, or an excerpt from a poem, must be no longer than 250 words and must not be printed on more than two pages.

and

- c. The copying is for only one course in the school in which the copies are made.

and

- d. The original copyright notice must appear on all copies of the work.

3. Prohibitions Regarding Multiple Copying. Making multiple copies without the copyright holder's permission for use in a scholastic setting is subject to the following prohibitions:

- a. The copying may not be used to create, replace or substitute for anthologies, compilations or collective works.
- b. Copies may not be made of "consumable" works, including workbooks, exercises, standardized tests, test booklets, answer sheets and the like.
- c. The copying may not substitute for the purchase of books, publisher's reprints or periodicals.
- d. The copying may not be directed by a higher authority, such as a principal or head of a department.
- e. The same staff member cannot copy, or have copied for him or her, the same item without permission from term to term.
- f. No charge shall be made to the student beyond the actual cost of the photocopying.

- g. During one class term, no more than one poem, article, story or essay or two excerpts may be copied from works by the same author, and no more than three works or excerpts may be copied from the same collective work or periodical volume.
- h. No more than nine instances of multiple copying of copyrighted works may occur for one course (this prohibition and the one immediately preceding it do not apply to current news periodicals, newspapers, and current news sections of other periodicals).

B. Audiovisual Works

1. Permissible Copying. Copies of any of the following audiovisual works may be made by or at the individual request of a staff member for classroom use:
 - a. "In house" productions;
 - b. Uncopyrighted works or works in the public domain; and
 - c. Copies made under "permission to copy" arrangements.
2. Permissible Broadcast Copying. The following broadcast programs may be copied off-air by or at the individual request of a staff member for classroom use:
 - a. Instructional television programs (subject to the specific rights limitations);
 - b. Broadcast programs to be used within ten school days of the original broadcast; and
 - c. Programs with specified "permission to copy" arrangements.
3. Prohibited Broadcast Copying. Notwithstanding any of the permissible uses above, the following shall be prohibited
 - a. Copying from premium channels (HBO, The Disney Channel, Showtime, Cinemax, and the like) or from non-broadcast or cable channels (ESPN, MTV, Nickelodeon, Arts and Entertainment, and the like);

- b. Duplicating copyrighted video recordings;
 - c. Copying from one format to another (16mm to videotape, Beta to VHS, disc to videotape, etc.); and
 - d. Copying off-air programs for the purpose of entertainment or reward. Rented or purchased "Home Use Only" video recordings may be used in the classroom as part of face-to-face instruction only. They may not be used for the purpose of entertainment or reward.
4. Permissible Viewing. The viewing of video recordings with "Public Performance Rights" is not restricted.

C. Computer Software

1. Permissible Copying. The following copies of computer software may be made by or at the individual request of a staff member:
- a. Copies essential to utilizing the program in conjunction with a machine;
 - b. Copies necessary for archival purposes;
 - c. Copies of "in house" school productions; and
 - d. Copies of uncopyrighted works or works in the public domain for classroom use.
2. Prohibited Uses. No staff member may do any of the following with respect to copyrighted software:
- a. Copy copyrighted programs on District equipment without the copyright holder's permission;
 - b. Use illegal copies of copyrighted programs on District equipment;
 - c. Purchase programs designed primarily as "break and entry" tools with District, state or federal funds;
 - d. Install single copies of copyrighted programs into more than one machine without the copyright holder's permission; or

- e. Use “archival” copies of software as additional copies.

D. Musical Works

1. Permissible Uses. A staff member, or someone at the staff member’s request, may use musical works in the following ways without the copyright holder’s permission:
 - a. Emergency copying to replace purchased copies not available “for an imminent performance, “ provided purchased replacement copies are substituted “in due course”;
 - b. “For academic purposes” other than performance, single or multiple copies, not to exceed one copy per pupil, may be made of excerpts of no more than 10% of the whole work, provided that the excerpts do not constitute a “performable unit” such as a movement or aria;
 - c. Purchased printed copies may be edited or simplified, provided that the “fundamental character” of the work is not distorted or any lyrics altered or added;
 - d. A single copy of recordings of student performances may be made for evaluation or rehearsal purposes and may be retained by the educational institution or individual teacher; and
 - e. A single copy of a sound recording of copyrighted music may be made from sound recordings owned by an educational institution or an individual teacher for the purpose of constructing aural exercises or examinations and may be retained by the educational institution or individual teacher.
2. Prohibited Uses. The following prohibitions apply to the use of musical works without the copyright holder’s permission:
 - a. The copies may not be used as substitutes for anthologies, compilations, or collective works;
 - b. “Consumable” materials, such as exercises and tests, may not be copied;

- c. No other copying is permitted for the purpose of performance, except “for an imminent performance,” as described in Section D.1. above;
- d. No other copying is permitted for the purpose of substituting for the purchase of music, except “for an imminent performance” and “for academic purposes”, as described in Section D.1. above;
- e. No copying is permitted without including the copyright notice that appears on the printed copy.

ARTICLE IV

LIBRARY USES OF COPYRIGHTED MATERIALS

A. Reproduction and Distribution by Libraries

1. Sources of Authority. The reproduction or distribution of a copy or phonorecord by a library is not an infringement of copyright if done in accordance with the following provisions of the Act:
 - a. Fair use provisions of Section 107; or
 - b. Library use provisions of Section 108.
2. Conditions. Under Section 108, a library or any of its employees acting within the scope of their employment may reproduce copies of print works and phonorecords under specific circumstances:
 - a. No more than one copy may be made at a time (“systematic” reproduction is prohibited, such as that done to substitute for subscribing to or purchasing a work; however, “isolated and unrelated” copies “on separate occasions” are allowed);
 - b. The copying must be without any purpose or commercial advantage;
 - c. All copies must include a notice of copyright.

3. Permitted Purposes. Section 108 permits reproduction and distribution of copyrighted works for the following purposes:
 - a. Preserving an unpublished work;
 - b. Replacing a damaged, lost or stolen published work;
 - c. Individual private study, scholarship or research by library patrons; and
 - d. Interlibrary loans (requests for copies must conform to the Guidelines of the National Commission on New Technological Uses of Copyrighted Works).
4. Limitations on the Application of Section 108. The rights of reproduction and distribution provided to libraries under Section 108 do not apply to the following works:
 - a. Musical, pictorial, graphic or sculptural works; or
 - b. Motion pictures or other audiovisual works other than “audiovisual works dealing with the news.”

The foregoing limitations notwithstanding, libraries may reproduce any copyrighted work if it is necessary to preserve an unpublished work or to replace a published work.

B. Required Copyright Notices

1. At Places Where Copy Orders are Accepted. Libraries must prominently display the following warning of copyright at the place where orders for copies are accepted. Verbatim adherence is required:

NOTICE

**WARNING CONCERNING
COPYRIGHT REGISTRATIONS**

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted materials.

Under certain conditions specified in the law, libraries and archives are authorized to furnish a photocopy or other reproduction. One of these specified conditions is that the photocopy or reproduction is not to be “used for any propose other than private study, scholarship, or research.” If a user makes a request for, or later uses, a photocopy or reproduction for purposes in excess of “fair use,” that user may be liable for copyright infringement.

This institution reserves the right to refuse to accept a copying order if, in its judgment, fulfillment of the order would involve violation of copyright law.

2. On Reproducing Equipment. Libraries must display on all of their reproducing equipment available for unsupervised use “a notice that the making of a copy may be subject to the copyright law. “ The Act requires no specific language for this notice.

ARTICLE V

COPYRIGHT INFRINGEMENT BY DISTRICT EMPLOYEES

A. Consequences of Infringement

1. No Indemnification. Under Section 895.46 of the Wisconsin Statutes, District employees who violate federal copyright laws may be deemed to have acted outside the scope of their employment and may not be eligible for any indemnification or legal counsel otherwise provided by the District.
2. Penalties. District employees who infringe copyrights may be personally liable for copyright infringement. Under Sections 502 through 506 of the Act, the penalties for infringing a copyright include becoming subject to an injunction to stop the infringement, payment of actual damages suffered by the copyright owner, disgorgement of any profits made by the infringer resulting from the infringement, an assessment of statutory damages, payment of costs and attorneys’ fees, impoundment of copies during the pendency of an infringement suit, and destruction of copies as part of the court’s final judgment.

STEPS FOR OBTAINING PERMISSION TO COPYRIGHT

WATERTOWN UNIFIED SCHOOL DISTRICT WATERTOWN, WISCONSIN

GUIDELINES FOR OBTAINING PERMISSION TO DUPLICATE

1. Letter of Request
 - Use letterhead stationery.
 - Include a permission form and self-addressed postage prepaid envelope for the copyright holder's convenience.
 - Request a reply within two weeks of the date of the letter.
2. Certified Mail, Return Receipt Requested
 - Send all correspondence via certified mail, return receipt requested (with the "sender's receipt" date stamped by the postal service to provide proof of mailing).
 - Retain copies of all correspondence and receipts.
 - Establish a budget to cover postage costs.
3. Follow-up Letter
 - Required if there is no response.
 - Attach a copy of the original request.
 - Include another permission form with a self-addressed postage prepaid envelope.
4. Permission Acknowledgment
 - Complete this form after permission is granted, and provide this information, along with the duplicated materials, to the user of the materials.
 - Honor a copyright holder's request for a specific bibliographic statement.
5. Additional Copies Needed Beyond the Initial Request Letter
 - Use this form when further permission is required.
6. No Response From the Copyright Holder
 - If a response is not received within three weeks after a follow-up letter has been sent, the District will proceed with using the materials until further information is received. The District's records will indicate an attempt to receive copyright clearances, since all correspondence will have been sent certified mail, return receipt requested, which provides proof that the copyright holder received the request (assuming the receipt is signed).

LETTER OF REQUEST

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED
RECEIPT NO.**

Copyrights and Permissions Editor
(Address)

Dear Friend:

We are a state agency that provides educational support for thirty school districts in Wisconsin. We are requesting permission to duplicate materials needed for *(indicate purpose, including name of school, course and grade, instructor's full name and semester and year in which the material will be used)*.

The materials that we are interested in duplicating are:

Author:

Editor:

Title [including edition and volume]:

Copyright Date:

ISBN [for books] or ISSN [for periodicals]:

Exact pages [and complete chapters] to be duplicated:

Number of copies to be made:

Type of reprint [photocopy, audio-tape, videotape, etc.]:

The duplicated materials will/will not be used with other photocopied materials.

Complete bibliographic credit will be given.

We would greatly appreciate your reply to our request by , 199_, so that we can proceed with (purpose).

A self-addressed envelope postage prepaid and a copyright permission form are enclosed for your convenience. If there will be a fee for permission to duplicate, please advise us immediately because limited funds are available for copyright fees. If you request a fee, please include your social security or taxpayer identification number.

We appreciate your consideration in granting us permission to duplicate your materials to improve our classroom instruction.

Sincerely,

PERMISSION FORM

Copyrights and Permissions Editor
(Address)

HAS PERMISSION TO DUPLICATE THE FOLLOWING MATERIALS:

AUTHOR:

EDITOR:

TITLE [including edition and volume]:

COPYRIGHT DATE:

ISBN [for books] or ISSN [for periodicals]:

EXACT PAGES and COMPLETE CHAPTERS:

NUMBER OF COPIES:

TYPE OF REPRINT [photocopy, audiotape, videotape, etc.]:

THESE MATERIALS WILL BE USED WITH OTHER PHOTOCOPIED MATERIALS.

Yes_____ No_____

COMPLETE BIBLIOGRAPHIC CREDIT WILL BE GIVEN.

This form, when properly signed, grants formal permission to duplicate the material stated above for educational use at Watertown, Wisconsin.

DATE: _____, 199_____

AUTHORIZED SIGNATURE

[Signature]

Typed or Printed

Name]

Title:

PERMISSION ACKNOWLEDGMENT

PERMISSION TO DUPLICATE HAS BEEN GRANTED TO THE WATERTOWN UNIFIED SCHOOL DISTRICT.

AUTHOR:

EDITOR:

TITLE:

COPYRIGHT DATE:

ORIGINAL SOURCE:

REPRINTED FROM:

ISBN [for books] or ISSN [for periodicals]:

EXACT PAGES and COMPLETE CHAPTERS:

NUMBER OF COPIES:

TYPE OF REPRINT [photocopy, audiotape, videotape, etc.]:

REPRINTED WITH PERMISSION FROM:

DATE: _____, 199_____

AUTHORIZED SIGNATURE

[Signature]

[Typed or Printed

Name]

ADDITIONAL COPIES REQUEST

_____,199_

CERTIFIED MAIL

RETURN RECEIPT REQUESTED

RECEIPT NO.

Copyrights and Permissions Editor
(Address)

Dear Friend:

In the past we have received permission to duplicate up to (number) copies of your material on the enclosed permission form. The material is valuable for (reason).

Thank you for granting permission to duplicate your material. We again need your permission to duplicate (number) copies of your material because (reason).

Please inform us by _____, 199__ if possible, so that we can complete our plans to use the material for educational purposes. For your convenience, we have enclosed a self-addressed, postage prepaid envelope in which to return the enclosed permission form.

We appreciate your consideration of this matter.

Sincerely,

FOLLOW-UP LETTER

_____,199

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED
RECEIPT NO.**

Copyright and Permissions Editor
(Address)

Dear Friend:

We have not yet received a reply to our __, 199__ letter to you, in which we requested your permission to use certain copyrighted material. A copy of our letter is enclosed, along with a permission form and a self-addressed postage prepaid envelope.

As stated in our prior letter, your copyrighted material would greatly benefit our educational program. Please consider responding by _____, 199__, so arrangements can be completed for using this material.

Thank you for your cooperation and prompt attention to this request.

Sincerely,

Appendix C

#6226

STUDENT ACCESS TO ELECTRONIC INFORMATION RESOURCES

The Watertown Unified School District Board of Education recognizes that telecommunications and other new technologies change the ways that information may be accessed, communicated and transferred by members of society. These changes may also alter instruction and learning. The Board supports access by students to information resources along with the development by staff of appropriate skills to analyze and evaluate such resources. Access to information is a cornerstone of our society.

Telecommunications, electronic information sources, and networked services significantly alter the information landscape for schools by opening classrooms to a broader array of resources. In the past, instructional and library media materials could usually be screened--prior to use--by committees of educators and community members intent on subjecting all such materials to reasonable selection criteria. Board Policies # 6413, 6413.1, and 6440 require that materials be consistent with district goals, supporting and enriching the curriculum while taking into account the pluralistic nature of, and the varied instructional needs, learning styles, abilities, and developmental levels of the students. Telecommunications, and other forms of electronic data transfer because they may lead to any publicly available fileservers in the world, will open classrooms to electronic information resources which have not been screened by educators for use by students of various ages.

Electronic information research skills are fundamental to preparation of citizens and future employees during an "Age of Information". The Board of Education expects that district staff will integrate thoughtful use of such information throughout the curriculum, and that the staff will provide guidance and instruction to students in the appropriate use of such resources. Staff will consult the guidelines for instructional materials contained in Board Policies # 6413, 6413.1, and 6440 and will honor the goals for selection of instructional materials, to every extent possible, contained therein.

Students are responsible for appropriate behavior on school computer networks, and other electronic resources, just as they are in a classroom or a school hallway. **Access to the Internet and other communications resources through school district facilities entails responsibility. Usage of the Internet and other electronic resources is a privilege, not a right.** Parents/guardians and students are responsible for monitoring access to electronic resources outside of school facilities. Communications on the district networks and electronic resources are often public in nature. General school rules for behavior and communications apply in the use of instructional technology. Instructional technology networks and resources are provided for students to conduct research and communicate with others. Access to network services will be provided to students who agree to act in a considerate and responsible manner.

Access to telecommunications will enable students to explore libraries, databases and bulletin boards while exchanging information and messages with people throughout the world. The Board of Education believes that the benefits to students from access in the form of information resources and opportunities for collaboration, exceed the disadvantages. Parents and guardians of minors, as well as students themselves, are responsible for upholding the legal and ethical standards that students should follow in accordance with district policy, procedures, and school rules. To that end, the Watertown Unified School District supports and respects each family's right to decide whether or not to *accept* electronic information access. Student use of telecommunications and electronic information resources will be permitted for all

students enrolled in the Watertown Unified School District. Parents may restrict access to electronic information resources with submission of the Access Denial Form.

The Board authorizes the Superintendent to prepare appropriate procedures for implementing this policy, and for reviewing and evaluating the effect it has on instruction and student achievement.

Approved: March 13, 1996

Revised: January 23, 1997

Revised: March 26, 1997

STUDENT ACCESS TO ELECTRONIC INFORMATION RESOURCES PROCEDURES

ADMINISTRATIVE PROCEDURES

Program Development

In order to coordinate a close match between electronic resources and district curriculum, staff will refer to the guidelines for selection of instructional materials contained in Board Policies # 6413, 6413.1, and 6440. In this manner, staff will make every effort to provide developmentally appropriate guidance to students as they make use of telecommunications and electronic information resources to conduct research and other studies related to the district curriculum. Students will be informed by staff of their rights and responsibilities as users of electronic information resources prior to gaining access, either as an individual user or as a member of a class or group.

As much as possible, access to district information resources will be designed in ways which direct students to resources which have been reviewed and evaluated prior to

use. Students may pursue electronic research using electronic information resources upon enrollment in Watertown Unified School District.

Internet Rules

Students are responsible for appropriate behavior on computer networks and the Internet just as they are in a classroom or a school hallway. Communications on the network are public in nature. General school rules for behavior and communications apply.

The network is provided for students to conduct research and communicate with others. Independent access to network services is provided to students who agree to act in a considerate and responsible manner. **Access to the Internet and other communications resources through school district facilities entails responsibility. Usage of the Internet and other electronic resources is a privilege, not a right.** At all times students will conduct themselves in ways that are both legal and ethical. Student access to electronic information resources is granted to all students enrolled in the Watertown Unified School District. Parents may restrict access to electronic information resources by submitting the Access Denial Form to the building principal.

Individual users of district electronic information resources are responsible for their behavior and communications over those networks. It is *expected and* required that users will honor the Electronic Information Resources Policy and Procedures.

Network storage areas are considered public areas open for monitoring and inspection similar to treatment of school lockers. Network administrators may review files and communications to maintain system integrity and insure that individuals are using the system responsibly. Users should not expect that files stored on district servers will be private.

Unacceptable behaviors include, but are not limited to:

- Sending or displaying offensive and/or obscene messages or pictures.
- Harassing, insulting, or attacking others.
- Damaging computers, computer systems, or computer networks.
- Violating copyright laws.
- Using another person's password.
- Trespassing in another individual's folders, work, or files.
- Intentionally wasting limited resources.
- Employing the network for commercial purposes.
- Accessing inappropriate, obscene, or illegal sources.

Sanctions

1. Violations of policy #6226, or school rules and procedures associated with policy #6226 may result in a loss of access.
2. Disciplinary action resulting from violations/infractions of policy # 6226, *Student Access to Electronic Information Resources* and associated administrative procedures will take place according to the following sequence:
 - Disciplinary action will be determined at the building level consistent with existing practice regarding inappropriate language or behavior, damage to property, refusal to obey rules or directions, etc..
 - An appeal of the building level decision may be made to the Electronic Information Review Committee. This committee will be comprised of teachers, parents, administrators, the superintendent, and students.
 - Final appeal of disciplinary decisions may be made to the Board of Education.
3. When applicable, law enforcement agencies may be involved and appropriate charges may be filed.

**STUDENT ACCESS TO ELECTRONIC INFORMATION RESOURCES INTERNET
AND ELECTRONIC MAIL**

PARENT LETTER

Date

Dear _____:

We are pleased to offer students of the Watertown Unified School District access to district electronic information resources, including electronic mail and the Internet. All students are provided access to E-mail, electronic information resources, and the Internet, upon enrollment in the Watertown Unified School District. Parents may deny access to these resources by submitting the Access Denial Form to their building principal.

Access to electronic information resources, e-mail, and the Internet enable students to explore libraries, databases, and bulletin boards while exchanging messages with other

users throughout the world. Families are cautioned that some material accessible via the Internet may contain items that are illegal, defamatory, inaccurate or potentially offensive to some people. While the intent of the Watertown Unified School District is to make electronic information resources access available to further educational goals and objectives, students may find ways to access other materials as well. We believe that the benefits to students from access to the electronic information resources and networks, in the form of information access and opportunities for collaboration, exceed the disadvantages. Parents and guardians, as well as students themselves, are responsible for upholding the legal and ethical standards that students should follow in accordance with Watertown Unified School District policies, school rules, and procedures.

DISTRICT INTERNET AND E-MAIL RULES

Students are responsible for appropriate behavior on computer networks and the Internet just as they are in a classroom or a school hallway. Communications on the network are public in nature. General school rules for behavior and communications apply.

The network is provided for students to conduct research and communicate with others. Access to network services is given to students enrolled in the Watertown Unified School District who agree to act in a considerate and responsible manner. Parent's may deny access by returning the Access Denial Form to the building principal. **Access through school district facilities entails responsibility. Usage of the Internet and other electronic resources is a privilege, not a right.** At all times students will conduct themselves in ways that are legal, ethical, and comply with school rules, Watertown Unified School District Board Policies and related procedures.

Individuals using electronic information resources are responsible for their behavior and communications over those networks. It is expected that users will comply with district policy, rules, procedures, and standards as outlined in policy #6226 and its' related procedures. Beyond the clarification of such standards, students are responsible for monitoring, controlling, and restricting their communications and use of electronic information resources.

Network storage areas are considered public areas open for monitoring and inspection similar to treatment of school lockers. Network administrators may review files and communications to maintain system integrity and insure that users are using the system responsibly. Users should not expect that files stored on district servers will be private.

Unacceptable behaviors include, but are not limited to:

- Sending or displaying offensive and/or obscene messages or pictures.
- Harassing, insulting, or attacking others.

Damaging computers, computer systems, or computer networks.
Violating copyright laws.
Using another person's password.
Trespassing in another individual's folders, work, or files.
Intentionally wasting limited resources.
Employing the network for commercial purposes.
Accessing inappropriate, obscene, or illegal sources.

Sanctions

1. Violations of policy #6226, or school rules and procedures associated with policy #6226 may result in a loss of access.

2. Disciplinary action resulting from violations/infractions of policy # 6226, *Student Access to Electronic Information Resources* and associated administrative procedures will take place according to the following sequence:

- Disciplinary action will be determined at the building level consistent with existing practice regarding inappropriate language or behavior, damage to property, refusal to obey rules or directions, etc..
- An appeal of the building level decision may be made to the Electronic Information Review Committee. This committee will be comprised of teachers, parents, administrators, the superintendent, and students.
- Final appeal of disciplinary decisions may be made to the Board of Education.

3. When applicable, law enforcement agencies may be involved and appropriate charges may be filed.

PARENT DENIAL OF ACCESS FORM

Student's Name: (Please Print) _____

As the parent or legal guardian of the student named above, I wish to deny permission for my son or daughter to access electronic information resources such as: electronic mail and the Internet through resources in the Watertown Unified School District.

I understand that some materials that can be accessed on the Internet may be objectionable and there is no guarantee of information accuracy. I understand that the Watertown Unified School District provides a basic level of security against inappropriate sites but cannot be responsible for the content of material accessed in violation of school district rules, policies, and procedures.

Parent's Name: (Please Print) _____

Parent's Signature _____ Date _____

Address _____

Telephone _____

Name of Student _____

School _____ Grade _____ Birth Date _____