

Fairview Area Schools

TECHNOLOGY PLAN

2013 - 2016



**Bringing Information, Tools,
and Opportunity to our Classrooms**

Robert Ricketson, Superintendent

TECHNOLOGY PLAN SUMMARY

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<http://fairview.k12.mi.us>

FOREWORD

INTRODUCTION

Student learning is at the heart of all we do at Fairview Area Schools. It is our belief that student learning is improved with the use of technology. This plan begins with a vision for student learning, a statement of beliefs, and a rationale for creating and continuing to build networked learning environments. It continues with a detailed explanation of *Technology Learning Standards* for all students, a description of network and telecommunications services, a description of professional development strategies, benchmarks and timelines for accomplishment of our learning goals, long-term funding strategies, and measures for assessment and evaluation.

In 1997, educators and community members created a plan to implement the use of technology at Fairview Area Schools, based on the increasing need for student skills in communication, information processing, and productivity. Since then, considerable work has been accomplished. Students and staff work within a networked environment in which all classrooms and work areas are equipped with computers and telephones with voice mail. All computers are equipped with a suite of applications used by all members of the learning community. From any computer in the district, members of the network can access files from their own dedicated space on servers and from shared drives. The district is linked with all schools in the COOR (Crawford, Ogemaw, Oscoda, Roscommon) and AMA (Alpena, Montmorency, Alcona) Intermediate School Districts in a voice, video, and data wide-area network as part of the Northern Michigan Electronic Consortium (NMEC).

What are the next steps? In December of 2000, the U.S. Department of Education's Office of Educational Technology finalized a National Technology Plan in which the following was stated (www.ed.gov/Technology/elearning):

The latest research and evaluation studies demonstrate that school improvement programs that employ technology for teaching and learning yield positive results for students and teachers. Given that many schools and classrooms have only recently gained access to technology for teaching and learning, the positive outcomes of these studies suggest a future for education that could be quite bright if the nation maintains its commitment to harnessing technology for education.

The adoption of new and emerging technologies by schools and classrooms offers even more reason to be hopeful. With sufficient access and support, teachers will be better able to help their students comprehend difficult-to-understand concepts and engage in learning, provide their students with access to information and resources, and better meet their students' individual needs. If we take advantage of the opportunities presented to us, technology will enhance learning and improve student achievement for all students.

As part of the National Technology Plan, the following National Educational Technology Goals were adopted:

Goal 1: All students and teachers will have access to information technology in their classrooms, schools, communities and homes.

Goal 2: All teachers will use technology effectively to help students achieve high academic standards.

Goal 3: All students will have technology and information literacy skills.

Goal 4: Research and evaluation will improve the next generation of technology applications for teaching and learning.

Goal 5: Digital content and networked applications will transform teaching and learning.

See Appendix C for more information about the United State Department of Education National Technology Plan.

This year, the national Web-based Education Commission (www.hpcnet.org/webcommission) was established by Congress to develop policy recommendations geared toward maximizing the educational promise of the Internet for pre-K, elementary, middle, secondary, and postsecondary education learners. The commission released a “policy roadmap” to assist educators and communities “chart the future of learning in the Internet age.” Fairview Area Schools joins with communities across the nation to envision educational possibilities in the 21st Century. This plan conveys next steps in using technology more productively and in weaving it more thoroughly into daily learning and teaching.

A VISION FOR TECHNOLOGY AT FAIRVIEW AREA SCHOOLS

Given the trends in today’s and tomorrow’s societies, this technology plan is presented to address our needs. It is not a “wish list”, but an attempt to realistically prepare our students to compete and participate in the real world. As the district has addressed its use of technology in the future, direction has been guided by an ongoing dialogue among staff, parents, the community, the Board of Education and students. Our Technology Committee has attempted to clarify the vision and the district’s core beliefs related to infusion of technology in our schools. These beliefs shaped all aspects of our previous technology plans, and they continue to do so today. Following is the essence of this mission and vision.

DISTRICT MISSION STATEMENT

Our schools' mission is to educate all students to their maximum potential. At the same time, our goal is to foster positive growth in social and emotional behaviors and attitudes so that students can become productive citizens.

TECHNOLOGY MISSION STATEMENT

What is "technology"? The Technology Committee has defined technology as "tools used to create a challenging, globally connected learning environment for students, staff, and community, and to create technologically literate life-long learners. Learners will be able to interact successfully in a technological environment to achieve their personal, educational, and workplace goals. They will skillfully use technology to access, retrieve and use information school-wide, community-wide, nationally, and internationally. With this in mind, the technology mission statement reads:

Use technology to implement the Michigan State Core Curriculum, help realize the Fairview Area Schools' Mission Statement, and thus prepare our students to function productively using technology.

IMPACT ON INSTRUCTION AND STUDENT LEARNING

More than anything else, the use of technology in our schools should positively affect the learning of our students. This goal should be the determiner for all decisions related to the purchase and application of technological resources. To this end, we want to infuse technology as a tool to enhance our curriculum and want the tool/s to lead to:

- An increase in the productive potential of students and staff.
- Better problem solving and reasoning abilities for learners.
- A reduction of the isolation of the learner and the teacher by making connections beyond the walls of the classroom.
- The promotion of skills which are relevant to the world of work and society.
- An increase and enhancement of communication and access to information for students, staff and the community.

ESSENTIAL SUPPORT VARIABLES

The district also recognizes that none of the goals above can be realized unless there is a solid plan and effective coordination of resources. The Technology Committee has identified the following elements as critical to the success of our vision. Effective planning must:

- Insure access to technology for the widest possible audience of students, staff and community.
- Maintain ongoing staff training.
- Provide the necessary support for hardware and network maintenance as well as the coordination of software use.
- Require the use and development of new curriculum and assessment techniques.

TECHNOLOGY STRATEGIES

To achieve our goals in accordance with the district mission statement, the following strategies will be implemented:

- 1) Provide technological skills needed for the entire K-12 student population as well as training for the staff.
 - Accomplish, technologically, the Fairview Area Schools' mission to educate all students to their maximum educational potential.
 - Provide a balanced approach to technology including office skills and lifelong learning skills.
 - Establish business/school/community partnerships to further authentic learning.
 - Commit to a curriculum that emphasizes gathering, synthesizing, and integrating information from many sources.
 - Emphasize working collaboratively and cooperatively.
 - Implement specific aspects of the Core Curriculum through the use of technology.
 - Define technology as, not only computer hardware, software, and the Internet, but also the other technology and multimedia tools.
- 2) Provide access to the most widely-used, modern hardware platforms and software.
 - Commit to hardware/software standards that reflect at least middle-of-the-line quality regarding to speed of processor, multimedia capabilities, printer quality, and disk capacity. Low-end equipment is the first to be dropped from the line, therefore we have out-of-date equipment which is costly to upgrade, and often will not allow us to run newer versions of software.
 - Utilize reputable name brands of equipment (better service and reliability, hardware architecture is more compatible with existing software, you pay for what you get).
 - Purchase software for each computer or site licenses, according to copyright laws.
 - Use present equipment where applicable.

- Use technology as a simulation for the real world-of-work.
- 3) Provide access to other forms of technology.
 - Promote distance learning.
 - Equip classrooms with or provide access to basic equipment such as video projectors, laser videodisc players, digital still and video cameras, VCRs, TVs, and calculators to assist in the teaching and learning process.
 - Provide each classroom with voice and data capabilities.
 - 4) Provide the means for yearly evaluation of the technology plan.
 - Promote written surveys and oral critiques, resulting in guidelines for subsequent strategies.
 - Consider achievement, use of appropriate evaluation tools, and enthusiasm of staff and students as a means of evaluating whether or not needs are being met.
 - Calculate the degree to which technology develops the core curriculum and exemplifies the school's mission.
 - Envision future technological needs.
 - 5) Provide funding for an annual technology budget.
 - Continuously study the technological needs of the district and recommend future funding.
 - Form community and business/industry partnerships.
 - Initiate a replacement strategy.
 - Fund yearly maintenance and needed repairs.
 - Support telecommunications.

DISTRICT PROFILE

Fairview Area Schools is a K-12 school district located in Oscoda County in the heart of Michigan's beautiful Northeastern Lower Peninsula. All instructional programming is housed in one building located in the community of Fairview. Fairview Area Schools boundaries encompass approximately 325 square miles including Oscoda County's Clinton, Comins, and part of Elmer Townships; and Alcona County's Mitchell Township.

◆ **Location:**

District Office	High School	Elementary/Middle School
Fairview Area Schools Robert Ricketson, Superintendent 1879 East Miller Road Fairview, MI 48621 Phone: 989-848-7004 Fax: 989-848-7070	Fairview High School Sonja Handrich, Lead Teacher 1879 East Miller Road Fairview, MI 48621 Phone: 989-848-7051 Fax: 989-848-7073	Fairview Elementary School Rick Handrich, Lead Teacher 1879 East Miller Road Fairview, MI 48621 Phone: 989-848-7010 Fax: 989-848-7073

◆ **Enrollment (as of 5/28/2013):**

Total Enrollment K-12:	307
Fairview Elementary School:	139
Fairview Middle/High School:	168

◆ **Staffing**

Administration	3	Superintendent, Lead Teachers
Technology	1	Technology Coordinator (Part-time)
Classroom Instructors	22.5	Elementary (9), High School (7), K-12 (2) Title I (1), Special Education (3.5)
Other Certified Staff	2	Counselors (1),
Instructional Support	7	Paraprofessionals (7)
Clerical	4	Central Office (1),
Maintenance	2	Fulltime (2)
Transportation	4	Superintendent), Drivers (3 Part-time)
Food Service	2	Supervisor, Assistant Cook

TECHNOLOGY COMMITTEE

The following individuals are members of the Technology Committee.

Name	Position
Mark Trim	Technology Coordinator
Robert Ricketson.....	Superintendent
Sonja Handrich.....	High School Lead Teacher
Cindy Neff	Middle School Social Studies & Civics Teacher
Bobbi Ross	High School Technology & Special Education Teacher
Miriam Handrich.....	Parent
Randy Shantz.....	Board Member
Jon Barnes.....	Elementary Teacher
Amanda Gascho.....	Title I

CONSORTIUM

Fairview Area Schools belongs to the Northern Michigan Electronic Consortium (NMEC), a consortium of districts in Michigan's Northeaster Lower Peninsula for the purpose of voice, video and data wide-area-networking. Following are the consortium members.

Consortium Member

- Alcona
- Alpena
- AMA Intermediate School District
- Atlanta
- COOR Intermediate School District
- Crawford-AuSable
- Fairview
- Gerrish-Higgins
- Hillman
- Houghton Lake
- Kirtland Community College
- Mio AuSable
- West Branch-Rose City

CURRICULUM

A. INTEGRATION GOALS, STRATEGIES and OUTCOMES

Philosophy

We believe that technology is a valuable educational tool; one that will enhance student learning at all levels and expands the scope of the curriculum in many innovative ways.

We further believe the understanding of and access to technology is vital in the educational plan for all students. Students must be given the opportunity to become competent in the use of technology as a tool for gathering, using and manipulating information, as well as for communication and creative expression. Students also must understand the impact of technology upon society and accept the responsibilities associated with living in today's Information Age.

The State of Michigan is a national leader in the development of elementary/secondary curriculum standards, which describe essential learning for all students. As part of the national standards movement, the Michigan State Board of Education is required to develop standards for a core academic curriculum (including math, science, reading, history, geography, economics, American government and writing). Associated with the core academic subjects are "model" core curriculum areas including art, career and employability skills, health education, life management, physical education, and technology. A specific set of standards has been developed for Instructional Technology across the Curriculum. Technology standards specifying what students must know and be able to do, as they progress through stages of schooling, are important in fostering their development; and these standards are valuable to our society at large for students, educators, parents, policymakers, employers, and providers of goods and services.

The State of Michigan has also adopted as a standard the International Society for Technology in Education (ISTE) National Educational Technology Standards (NETS) project as a guide for the integration of technology into the curriculum. The primary goal of the ISTE NETS Project is to enable stakeholders in Pre K-12 education to develop national standards for educational uses of technology that facilitate school improvement in the United States. The NETS Project is developing standards to guide educational leaders in recognizing and addressing the essential conditions for effective use of technology to support Pre K-12 education.

Quality indicators for curriculum development and technology:

- The design of the curriculum is driven by the goals and performance indicators for student learning that have been defined by the school. The MDE Curriculum Framework will serve as a guide to this.
- The design of the curriculum takes into account the learning needs and interests of the students.
- The curriculum is clearly articulated and supports a shared vision for student learning.
- The school is committed to the on-going evaluation and renewal of the curriculum.
- The advantages of integrating applications of technology in teaching strategies and learning activities encourage teachers to provide students with learning experiences that would be impossible or difficult to achieve without technology resources.
- Effective instructional strategies and learning activities are employed to help students understand and use technology.
- Information technology resources are employed to expand to and strengthen the system of assessing student learning.
- High quality assessments are employed to evaluate students' achievement of essential knowledge needed to use technology proficiently.

Technology is defined as the application of science especially to industrial or commercial objectives or the scientific method and the machines and materials used to achieve a commercial or industrial objective. A technology curriculum integrates the complementary areas of technology education and educational technology. Technology education is defined as the study of technology and its effects on individuals, society and civilization. Educational technology is the application of technology to the teaching and learning process.

Learning with and about technology prepares learners to live responsibly in a democratic, technically driven society. Learners will be asked to use technology for management, problem solving, creative expressing, research, design, and product development in their careers. Learners become technologically capable when they apply technology across curricular areas and when technology is used throughout the learning process.

Goals:

The goal of technology education in Fairview Area Schools is to prepare students to use the tools of a rapidly changing technological society. We believe the goal of curriculum integration is to ensure:

- That every student has competency in basic technological skills.
- That every student will become competent in the use of varied technologies using analytical thinking, problem solving and project-based learning.
- That the integration of technology be designed and studied in all curriculum areas to enhance teachers' ability to assess student learning in critical and creative thinking skills and help students adopt a life-long learning attitude.
- That sufficient technological resources and training be provided for students and staff.

- That because students' knowledge and ability to use technology varies so greatly, the teaching staff will develop provisions for students to test out of basic technology instruction.
- Technology will be used to enhance curriculum so that MEAP scores will be improved.

Outcomes:

A technologically literate learner:

- Explores, evaluates, and uses technology to accomplish real world tasks,
- Develops knowledge, ability, and responsibility in the use of resources, processes, and systems of technology,
- Acquires, organizes, analyzes, and presents information,
- Expands the range and effectiveness of communication skills,
- Solves problems, accomplishes tasks, and expresses individual creativity through the use of technology,
- Applies legal and ethical standards when using technology.

Our standard at Fairview Area Schools is to follow the state guidelines as presented in the State of **Michigan's Technology Content Standards** and the **NETS for Students** guidelines. Overviews of these documents are included in **Appendix A and B**.

B. STUDENT ACHIEVEMENT AND TIMELINE

The following is an overview of expected technology integration outcomes at specific grade-level checkpoints.

EARLY ELEMENTARY

When exiting the 2nd grade:

Life roles:

All students will be able to use and transfer technological knowledge and skills for life roles (family member, citizen, worker, consumer). All students will be able to:

- Show an understanding of the ways in which technology is used in the home, school, community, and workplace. (Automated teller machines, super market checkouts, bar code readers, food scales, credit card readers.)

Technology applications:

All students will be able to use technologies to retrieve, organize, manipulate, evaluate, and communicate information. Demonstrate keyboarding and mouse skills appropriate to grade level. All students will be able to:

- Open programs, open and save computer files, close files and programs,

- Demonstrate appropriate procedures and proper care of computer hardware and software,
- Use a word processing program to create, edit/revise, and print a document using text and graphics,
- Use a multimedia program to create and print a document with text and graphics.

Problem solving:

All students will be able to apply appropriate technologies to critical thinking, creative expression and decision-making skills. All students will be able to:

- Analyze and correct routine problems encountered in hardware and software usage.
- New solutions: All students will be able to employ a systematic approach to technological solutions by using resources and processes to create, maintain and improve products, systems, and environments. All students will be able to:
- Use the basic terminology for a variety of technologies (i.e. open, save, load, import, save as, edit, format, cursor, A drive, C drive, CD Rom drive),
- Identify and explain the functions of the major parts of a computer system (keyboard, monitor, CPU, mouse, disk drive, floppy disc, CD-ROM, DVD, CD burner, scanner, printer.)

Ethical and legal standards:

All students will be able to apply ethical and legal standards in planning, using, and evaluating technology (appropriate to age, classroom standards, and school policies). All students will be able to:

- Show an understanding of the ethical, moral and legal standards and consequences related to technology in the home and school.

Career implications:

All students will be able to evaluate the societal and environmental impacts of technology and forecast alternative uses and possible consequences to make informed civic, social, and economic decisions.

All students will be able to:

- Describe how a technology could be used in a career or occupation.

LATER ELEMENTARY

When exiting the 5th grade:

Life roles:

All students will be able to use and transfer technological knowledge and skills for life roles (family member, citizen, worker, consumer.) All students will be able to:

- Describe the ways in which technology is used in the home, school, community, and workplace (automated teller machines, super market checkouts, bar code readers, food scales, credit card readers, video games, Internet),
- Compare and/or contrast the impact of technology in the home today, in the past, and in the future,

- Summarize those aspects of modern life that are possible because of technology,
- Discuss current and projected applications of computer systems,
- Define and use appropriate technological terminology.

Technology applications:

All students will be able to use technologies to retrieve, organize, manipulate, evaluate, and communicate information. All students will be able to:

- Interpret, analyze and evaluate information with the assistance of technology (data, video, graphics, etc.),
- Define and use appropriate computer terminology for grade level,
- Demonstrate appropriate procedures and proper care of computer hardware and software,
- Demonstrate keyboarding skills appropriate to grade level,
- Demonstrate word processing skills by showing how to open, save, load, print, find, replace, select, spell check, place a graphics, and edit,
- Demonstrate multimedia skills by creating and publishing a document with text and graphics,
- Use on-line service to retrieve information, save, and print,
- Use E-mail to communicate with other students.

Problem solving:

All students will be able to apply appropriate technologies to critical thinking, creative expression and decision-making skills. All students will be able to:

- Compare and contrast technological solutions to problems of today and the past,
- Create a graphic design using a prepared software package,
- Develop problem-solving skills using software designed for this purpose.

New solutions:

All students will be able to employ a systematic approach to technological solutions by using resources and processes to create, maintain and improve products, systems, and environments. All students will be able to:

- Select the appropriate tools, materials, equipment, and processes involved to solve a technological problem.

Ethical and legal standards:

All students will be able to apply ethical, moral, and legal standards in planning, using, and evaluating technology. All students will be able to:

- Explain the need for laws related to technologies,
- Discuss possible effects of violation of copyright laws as they relate to computer software.

Career implication:

All students will be able to evaluate the societal and environmental impacts of technology and forecast alternative uses and possible consequences to make informed civic, social, and economic decisions.

All students will be able to:

- Demonstrate how people in different occupations and careers use technology to do their work.

MIDDLE SCHOOL

When exiting the 8th grade:

Life roles:

All students will be able to use and transfer technological knowledge and skills for life roles (family member, citizen, worker, consumer). All students will be able to:

- Identify and use technologies that interact with the computer and recognize their uses (video disks, CD-ROM, fax, modems),
- Identify special purpose devices and describe their unique capabilities (musical synthesizers, speech synthesizers, optical scanners, digital cameras, video, virtual reality),
- Identify changes in computer technology and other emerging technologies and recognize the impact on the home, workplace, and society.

Technology applications:

All students will be able to use technologies to retrieve, organize, manipulate, evaluate, and communicate information. All students will be able to:

- Analyze and correct routine problems encountered in hardware and software use,
- Demonstrate ability to prepare, evaluate, and synthesize information collected and stored (voice, data, video, graphics, etc.),
- Demonstrate proper care of computer hardware and software,
- Show an understanding of computer viruses and the safeguards against them,
- Review and improve keyboarding skills,
- Create and publish a document with text and graphics,
- Retrieve information from a development database,
- Search a database for specific information (queries),
- Analyze the information retrieved from a database,
- Design an input form and enter information into a database,
- Edit the contents of a database,
- Create a print format to display the data requested and print out a report,
- Use word processing and database integration (mail merge, form letter),
- Use a calculator to solve math problems (square root, positives, negatives, fractions, decimals, percents).

Problem solving:

All students will be able to apply appropriate technologies to critical thinking, creative expression and decision-making skills. All students will be able to:

- Investigate how different cultures use technology to solve similar problems,
- Analyze data for the purpose of developing, testing and revising a hypothesis.

New solutions:

All students will be able to employ a systematic approach to technological solutions by using resources and processes to create, maintain and improve products, systems, and environments. All students will be able to:

- Demonstrate and adapt tools, materials, equipment, and processes to produce prototypes and solutions to technological problems.

Ethical and legal standards:

All students will be able to apply ethical and legal standards in planning, using, and evaluating technology. All students will be able to:

- Identify the possible effects of illegal and/or inappropriate use of technologies (Internet),
- Hypothesize legal and ethical factors in the design and development of a new product,
- Discuss possible effects of violation of copyright laws as they relate to computer software.

Career implications:

All students will be able to evaluate the societal and environmental impacts of technology and forecast alternative uses and possible consequences to make informed civic, social, and economic decisions.

All students will be able to:

- Investigate the effects of the growth and development of technology on careers and occupations,
- Analyze present and future job markets in specific technology related careers and occupations.

HIGH SCHOOL

When exiting the 12th grade:***Life roles:***

When exiting the 12th grade, all students will be able to use and transfer technological knowledge and skills for life roles (family member, citizen, worker, consumer). All students will be able to:

- Evaluate technological impacts on society,
- Identify an emerging technology and forecast impacts of that technology on the family,
- Review and identify special purpose devices and describes their unique capabilities (musical synthesizers, speech synthesizers, optical scanners),
- Identify and use technologies that interact with the computer and recognize their uses,

- Identify and analyze how advances in technologies have increased the amount of information accessible to society (cable systems, telecommunications, networks, electronic mail, interactive video technologies, laser discs, on-line services and databases, satellites).

Technology applications:

All students will be able to use technologies to retrieve, organize, manipulate, evaluate, and communicate information. All students will be able to:

- Use technologies to demonstrate skills and apply a systematic solution to a problem (voice, data, video, graphics, etc.),
- Review the purposes, uses, hardware, and software required for computer communication,
- Demonstrate proper care of computer hardware and software,
- Review and improve keyboarding skills,
- Review and improve word processing skills,
- Create and publish a document with text and graphics,
- Review and improve the use of databases,
- Design and enter numerical data, literal information, and formulas into a spreadsheet,
- Edit the contents of an electronic spreadsheet,
- Store and retrieve the contents of an electronic spreadsheet,
- Control the content display of the electronic spreadsheet,
- Produce a printed copy of all or selected portions of an electronic spreadsheet,
- Answer "what if?" questions and test hypotheses with an electronic spreadsheet,
- Create a graph using a prepared software program,
- Demonstrate integration of an electronic spreadsheet, database, and word processing programs.

Problem solving:

All students will be able to apply appropriate technologies to critical thinking, creative expression and decision-making skills. All students will be able to:

- Apply technological procedures to overcome obstacles when implementing a solution to a problem.

New solutions:

All students will be able to apply a systematic approach to technological solutions by using resources and processes to create, maintain and improve products, systems, and environments.

All students will be able to:

- Use common tools, materials, equipment, and machines to design and produce products addressing a given technological problem.

Ethical and legal standards:

All students will be able to apply ethical and legal standards in planning, using, and evaluating technology. All students will be able to:

- Analyze and interpret impacts of differing ethical and legal standards in the age of global competitiveness,

- Apply for a legal document (e.g. work permit, driver's license, and voter's registration, copyright, patent and explain the associated rights and responsibilities),
- Discuss the pros and cons that exist regarding computers as they relate to the rights of the individual versus the Freedom of Information Act, and assess the political issues that surround the use of technologies.

Career implications:

All students will be able to evaluate the societal and environmental impacts of technology and forecast alternative uses and possible consequences to make informed civic, social, and economic decisions.

All students will be able to:

- Evaluate current uses of technology on one's personal career and occupational goals,
- Analyze and forecast the effects of technology on one's personal career and occupational goals.

NOTE: Refer to **Appendix A** for the complete **Overview of Technology Content Standards** document as defined by the State of Michigan.

C. TECHNOLOGY DELIVERY

Fairview Area Schools currently offer the following classes and/or curriculum that use technology as a focus. Using **technology as a focus** means technology is used regularly (every day or almost every day) in order to meet the requirements for the class, and that the class could not keep the same expectations for students without this technology.

- | | | |
|---|---|--|
| <ul style="list-style-type: none"> • Foreign languages • Computer Literacy • Journalism • Trigonometry • Pre-Calculus • Elem. Keyboarding/Computer Literacy skills • “Blackboard” for School-to-Work | { | Through ITV (Interactive Television)
as offered for current school year |
|---|---|--|

The following list contains strategies currently in place or to be developed that will allow Fairview Area Schools to continue current programs and to improve on programs. Improvement may include dropping a program in favor of a better one.

- Continue to provide media center resources related to the curriculum (digital cameras, reference CD's, electronic card catalog, internet access, etc.)
- Maintain a mailing list to inform staff of virtual field trips info
- Develop plan to update software and equipment as needed to keep up with current technology

- Work with superintendent on budget to cover expenses on a yearly basis
- Encourage students to be involved in technology classes
- Offer professional development
- Networking with the COOR ISD and other school systems
- Invite professionals from community to share expertise with a class
- Partnership with Kirtland Community College
- Utilize Media Center resources

D. PARENTAL COMMUNICATIONS & COMMUNITY RELATIONS

The following strategies will be used to promote parental involvement and to increase communication with parents:

1. Packet of technology information sent home with the student handbook or at the first parent/teacher conference. A recommended list of software to complement school curriculum will be included.
2. A report for each student grades 2-8 concerning keyboarding skills will be prepared each marking period as applicable.
3. Teachers may opt to communicate with students and parents via e-mail where possible, via voice mail for daily assignments, or a web page.
4. Parents with technology skills invited into classrooms to demonstrate and impart knowledge of skills needed for particular professions.
5. School sponsored sales of computer related equipment that is still in good condition available for families that are interested in purchasing it.
6. Educational fair with displays set up of student generated projects using technology skills taught.
7. Parents may also access the school web site for information in the technology section.
8. Quarterly mailings will be sent to the community to impart school happenings and information.

E. COLLABORATION

The Fairview Area Schools believes in the right of all students to learn and is committed to equal access to all educational resources, including technology. This commitment is reflected in the school mission statement. The district collaborates with the districts within its intermediate school district (COOR) and the community college (Kirtland) for many training sessions and the sharing of resources.

The district has been an active participant in federal, state, regional and local technology funding programs such as the Universal Service Fund, Technology Literacy Challenge Fund Grant, Teacher Technology Initiative, REMC Mini-Grant, LSTA, etc.

In order to improve access to facilities, equipment, training and information resources for all stakeholders, the district will strive to meet the following:

- Keeping the community informed (Continuous)
- Inviting business partners to join the district technology committee
- Seeking advice from businesses in the community that are "heavy users" of technology
- Promoting change and technology in the district in all publications (Continuous)
- Making technology available to the community (Continuous)
- Maintaining and evaluating current and future membership affiliations with federal, regional, state, and local organizations (Continuous)

PROFESSIONAL DEVELOPMENT

F. PROFESSIONAL DEVELOPMENT

The district realizes a great need for ongoing technology-related staff development opportunities. Currently a wide variety of skill levels exist related to the application of technology in the classroom. There is a need to close the gap between the highly skilled and the under skilled technology users. One of the major goals of the district's technology plan is to ensure staff will participate in professional development activities in technology that will enhance the curriculum and improve student learning on an ongoing basis.

A thriving learning community focuses on improving learning for all of its youth and adult members. In order for staff members to create powerful learning experiences for children, they need to also be engaged. The International Society for Technology in Education (ISTE) NETS for Teachers Project, a US Department of Education, *Preparing Tomorrow's Teachers to Use Technology* grant facilitated a series of activities and events resulting in a national consensus on what teachers should know about and be able to do with technology. The project also provides models for teacher preparation programs to use in incorporating technology in the

teacher preparation process and disseminate these promising practices for preparing tomorrow's teachers to use technology effectively for improving learning. Major functions of the project are to:

1. develop a comprehensive set of performance-based technology foundation standards for all teachers reflecting fundamental concepts and skills for using technology to support teaching and learning;
2. define essential conditions for teacher preparation and school learning environments necessary for effective use of technology to support teaching, learning, and instructional management;
3. develop standards-based performance assessment tools for measuring the achievement of the technology foundation standards and as a basis for certification, licensing, and accreditation; and
4. identify and disseminate models of teacher preparation where candidates receive experiences preparing them to effectively apply technology to support student learning; and
5. establish a National Center for Preparing Tomorrow's Teachers to Use Technology (NCPT3) which will provide coordination, leadership, and support for the PT3 initiative and dissemination of program results.

The **NETS for Teachers** project describes standards, assessments, and conditions that facilitate the use of technology to support student learning. The State of Michigan has adopted, as a standard, NETS for Teachers. Here at Fairview Area Schools, we have also adopted the NETS for Teachers standards as a guiding document for professional development. A summary of these standards, assessments, and conditions can be found in **Appendix C**.

G. SUPPORTING RESOURCES

A teacher self-evaluation will be completed by each teacher in May. Prior to self-evaluation each spring, teachers will review benchmarks for their grade level(s) and/or content area(s).

- Part I: Identify areas of proficiency
- Part II: Identify areas of need for professional development for staff to meet benchmarks

Self-evaluation will be revised each year by the technology committee to assess staff growth and revise professional development for the following year.

Following teacher self-evaluation, administrators will:

- evaluate teacher progress toward technology proficiency.
- ensure that each teachers Professional Growth Plan will include at least one item related to technology professional development.

The Technology Committee will determine from the self-evaluations how many professional development days will be scheduled for technology for the next school year and the nature of the professional development (i.e. focus on productivity skills or technology integration into other curriculum area units).

The district utilizes a variety of resources in providing technology training. The district makes excellent use of talented staff, workshops hosted by the local ISD and REMC, Kirtland Community College, conferences and outside sources. These resources and sessions are constantly being assessed to ensure a sound planning process.

These professional development resources can be delivered by:

- instruction by in-house experts.
- instruction by outside sources (COOR, ITV, REMC, Kirtland, etc.).
- self-instruction through instructional resources (CD's, manuals, guides, on-line classes, and other support materials).
- time to familiarize oneself with new classroom content specific software.

Following is the self-evaluation form used to assess staff technology skills growth.

Applications

Please rate each of the following from 5 (High) to 1 (Low) **for you as a staff member** of the school—**refer to the tables at the bottom of the page as a guide**. If you are unsure, you may put a ? in the box. Please do not leave a box blank.

Applications	Availability In your opinion, how available is this software?	Proficiency How proficient are you in the use of this application?	Importance How important do you feel this application is for you to do your job?	Frequency How frequently do you currently use this software?
Word Processing (Word, Appleworks Word Processor)				
Email				
Internet				
Database (Access, Appleworks Database)				
Spreadsheet (Excel, Appleworks Spreadsheet)				
Presentation software (PowerPoint, Appleworks Presentation)				
Research technologies (card catalog, CD-ROM encyclopedia, magazine indexes)				
Electronic calendar /scheduler (Palm Pilot or other calendar software)				
Canned Graphics (Publisher, Printshop, etc.)				
High-End Graphics (Photoshop)				

Assessment (grade books, progress reports, portfolios, etc.)				
Multimedia (Photo editing, iMovie, etc.)				
Instructional Software				
Electronic Individualized Education Plans				
Inventory database				
Local curriculum database				
Teacher utilities (test generators, crossword puzzle makers, etc.)				
Integration of technology into the curriculum				
Software evaluation				

<p>Availability</p> <p>5 = Available 100% of the time it's needed</p> <p>4 = Generally available when needed</p> <p>3 = Often delays caused by a shortage of availability</p> <p>2 = Not available at my end of the building</p> <p>1 = The district does not own this</p>	<p>Proficiency</p> <p>5 = I am good enough to teach this to others</p> <p>4 = I need little additional help or additional training</p> <p>3 = I need to improve my skills or learn more features</p> <p>2 = I need more training just to learn the basics</p> <p>1 = I've never used this</p>	<p>Importance</p> <p>5 = I would not be able to effectively do my job without this</p> <p>4 = This makes my job easier and me much more effective</p> <p>3 = On occasion, this is important</p> <p>2 = Rarely helpful. I can do my job just fine without it</p> <p>1 = This is completely unneeded</p>	<p>Frequency</p> <p>5 = at least once a day</p> <p>4 = at least once a week</p> <p>3 = at least once a month</p> <p>2 = at least once a year</p> <p>1 = very rarely or never</p>
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Frequency of Use

Item	Frequency
Computer	
CD-ROM	
Laserdisc Player	
Fax	
Video Teleconference	
Voice Mail	
Camcorder	
Digital Video Camera (video)	
Digital Camera (still photos)	
VCR	
Cable TV	
Laser Printer	
Zip Drive	
Scanner	
Video Projector (projection of computer images)	

<p>Frequency</p> <p>5 = at least once a day</p> <p>4 = at least once a week</p> <p>3 = at least once a month</p> <p>2 = at least once a year</p> <p>1 = very rarely or never</p>

Location	Computer lab	Classroom	Home	Other
How frequently do you use a computer in each of these locations?				
How frequently do your students use a computer in each of these locations?				

Attitudes

Using technology makes me more effective.	
Technology helps me organize my work.	
I find the use of technology to be motivating.	
I am comfortable learning about and using technology.	
I would like to integrate more technology into my work.	
I would like to integrate more technology into my classroom.	
The building administration encourages the use of technology.	
COOR ISD encourages the use of technology.	
I feel comfortable helping others in the school with technology.	
I feel comfortable asking others in the school for help with technology.	
I take personal time to learn and practice technology skills.	
I am committed to technology training over the next year.	

3 = strongly agree 2 = agree 1 = disagree 0 = strongly disagree ? = not applicable
--

Inservice Times

Please indicate how likely you would be to participate in a technology inservice if offered at these times:

During the school day	
After school	
In the evening	
On the weekend	
During the summer	
Professional Development ½ days	
Professional Development full days	

3 = very likely 2 = likely 1 = unlikely 0 = very unlikely
--

Support

Please indicate how important the following support is to you:

School-based technology support personnel	
Release time to observe other teachers using technology	
Technology conferences	
On-Site technology workshops	
Classroom computer for teacher to use	
Stipend for staff development time	
Computer to take home	
College credit	
Video or CD-ROM based training	
Staffed technology labs open during non-school hours	
Release time for exploring	

3 = very important
2 = important
1 = unimportant
0 = would not use

Additional Written Comments

Please add your written comments below:

INFRASTRUCTURE & SUPPORT

H. INFRASTRUCTURE TECHNICAL SPECIFICATIONS AND DESIGN

NETWORKING

Goal

To provide staff and students access to an information highway, internal and external, that promotes cooperation and collaboration anywhere, anytime.

Objectives

To develop a logical network design which:

- is based on open systems and takes into consideration flexibility and future growth, technologies that minimize annual costs and fees, integration of voice, video, and data services at the desktop, central management, administration, and troubleshooting capabilities, and a seamless interface that provides students, staff, and community easy access to information from Windows and Macintosh platforms.
- has a disaster recovery mechanism to ensure the integrity and reliability of the network at all layers, adequate backup of information, and the ability to notify and mobilize essential personnel to minimize the amount of “downtime” in the event of a network disruption.
- has protocols and standards to provide adequate security of information to prevent unauthorized use.
- has standards, at all levels, from cabling, hardware and software, to communication protocols.
- researches, tests, and develops migration strategies when implementing new projects and technologies.

CURRENT TECHNOLOGIES

Wiring:

Type of Wiring: The district standard is Category 5 Unshielded Twisted Pair with a fiber optic backbone. Our school building has two IDF’s (Intermediate Distribution Frame) located in the elementary wing and high school wing and one MDF (Main Distribution Frame) located in the NOC (Network Operations Center). One fiber optic cable ties each IDF to the MDF. From each IDF there are up to three Cat5 wires to each classroom that are terminated, in most cases, on three different walls. Since some of the classrooms in the elementary are configured with multiple network devices (computers and printers) located in clusters, those classrooms have a mini-hub for the cluster of devices tied into the network and internet. In the high school, because the number of network devices in each classroom does not exceed the number of data drops, no mini-hubs are currently required.

Network Standard: All wiring to the classrooms is Cat5e Ethernet and the main backbone is fiber optic cable. The ethernet is currently tied together in a LAN

(Local Area Network) via 3COM 10/100/1000Mb and Linksys 10/100/1000Mb Switched Hubs.

Networking Protocol(s): TCP/IP is the standard networking protocol in the Middle/High School. In the elementary, TCP/IP is also the standard, however AppleTalk is still used as a network protocol.

Services:

File Services: Microsoft Windows Server File Sharing via TCP/IP, AppleShare file sharing via AppleTalk.

Printing Services: AppleTalk (Apple network), Microsoft print server Services).

Other Services: Library and catalog servers (Alexandria), student database (Power School), electronic attendance (Power Power School Teacher delivered K-12 via TCP/IP), electronic grading (Power School Teacher delivered K-12 via the TCP/IP), and fiscal services (Specialized Data Services) access. The Finance and Administration server is backed up nightly to provide for disaster recovery.

Internet Connection:

Internet access is provided through M33Access fiber optic cable.

Electrical Capacity:

20 Amp circuits are installed in each instructional space as a district standard.

FUTURE TECHNOLOGIES

In the future is recommended that, the current wireless access points be replaced with a managed wireless system, to reduce and/or eliminate disconnects from the network due to the load capacity being exceeded on the current wireless devices. It is also recommended that interactive white boards be placed in the classrooms. We would also recommend that the school initiate a one to one tablet/Ipad environment.

VOICE COMMUNICATION SYSTEMS

Goal

To deliver an effective district-wide voice communication system.

Objectives

To deliver a district-wide voice communication system which:

- improves the capacity, efficiency and accessibility of the telephone and voice mail systems.
- allows patrons and parents to communicate easily and directly with staff members.
- establishes an in-building communication plan which addresses key information and safety needs of both staff and students.
- allows students and staff to access a wide variety of resources outside the school site.
- enables voice and message capabilities in and out of the district.

CURRENT TECHNOLOGIES

Fairview Area Schools central telephone system is located in the NOC (Network Operations Center). The NOC is the focal point for all telephone and data activity in the district. The district telephone network is as follows:

- Nortel Networks M7208 handsets.
- Eight incoming/outgoing lines.
- The district has a total number of 46 Handsets located in classrooms and administrative offices.
- Voice mail system is integrated with the telephone system.
- Each staff member in the district has a voice mailbox for voice messaging.

FUTURE TECHNOLOGIES

In the future is recommended that, the school replace the current phone system to meet the E911 requirements.

HARDWARE

Goal

To provide hardware packages that will best support the software or programs needed to meet the learning targets found in the Curriculum Framework.

Objectives

Hardware purchases will be made:

- as a result of researching and testing new products while ensuring the integrity and security of the network.
- after determining that a product's capabilities will be the best match for exemplary educational software.
- after evaluating new products based on their fiscal impact including purchase price, maintenance needs, and ongoing operating costs.
- with a commitment and plan to maintain the new equipment in good working condition.

CURRENT TECHNOLOGIES

Fairview Area Schools computing environment is currently cross-platform. As a standard, Fairview Area Schools are currently using PC's running Windows XP Professional, and Windows 7 Professional. The breakdown of computers by category is as follows:

- Windows XP Professional
Minimum district standard: Intel Core2 4300 1.80GHz with 1GB RAM with 100Mb NIC
Number of computers equal to or exceeding this standard: 91
- Windows 7 Professional
Minimum district standard: Intel Pentium G850 2.90GHz 1GB RAM with 100Mb NIC
Number of computer equal to or exceeding this standard: 65
- Apple IPAD 2
Minimum district standard: Apple IOS 6
Number of tablets equal to or exceeding this standard: 30
- Macintosh OS9 & OS X
Minimum district standard: iMac or G4 700MHz with 256MB RAM with 100Mb NIC
Number of computers equal to or exceeding this standard: 9

Each computer workstation is adequately protected with surge-protection.

FUTURE TECHNOLOGIES

As with all sectors of society, including education as well as private industry, software always drives the configuration of hardware. We acknowledge that the only way to effectively deliver a high quality technology plan to students and staff is to provide hardware equipment that is able to handle to demands of software. With this in mind we plan to replace our hardware with the following replacement cycle.

Maintaining the technology budget at the current level will be vital for repairs (nearly all currently owned equipment will come out of warranty), emergencies, unknown needs, and supplies.

During school years 20013-14, 2014-15, and 2015-16 the Technology Committee will establish a plan to become more efficient users of technology. New technology must be purchased on an annual basis to replace worn out technology, to provide adequate service to our students and staff. The Technology Committee's current cost estimate is \$30,000 per year. We have established a detailed K-12 5-year+ framework for the replacement of hardware that includes the purchase of new equipment, recycling equipment from high impact/use areas to other areas within the building, and the eventual removal of obsolete equipment. As we approach the 2015-16 school year, the Technology Committee will revise this framework based upon the district's financial status as well as student and staff populations at that time.

When replacing these older computers, new computers will be purchased with existing "middle-of-the-road" configurations as defined in marketplace at the time of purchase. Our standard will become a Windows based platform environment with the Macintosh platform in the Elementary School being migrated out and replaced with a PC platform, and a PC platform in the Middle/High School. All computers will have 100Mb/s Ethernet cards to allow for fast data transmission. When replacing in the elementary, high speed networked laser printers will be strategically placed throughout the elementary. This strategy still allows for high speed and high quality printing with low maintenance (in consumables and labor).

SOFTWARE

Goal

To provide integrated software resources to meet the curriculum requirements of all students and to meet the application needs of the staff and community members.

Objectives

To implement software resources that:

- provide students with integrated software resources to enrich and enhance learning experiences.
- provide staff with global resources to increase productivity.
- provide an application suite that includes standard productivity tools, and a graphical user interface (GUI), information management tools, groupware, telecommunications tools, and multimedia.
- use "off-the-shelf" software to meet the needs of users.
- provide an operating system that is intuitive (GUI), easy to use, supports concurrent processing of multiple tasks and supports the user's applications.

- provide users the ability to share information and access shared peripherals (i.e. laser printers, file servers, etc.).
- fulfill the intended purpose of the software by ensuring that appropriate hardware is purchased.
- provide adequate security of information to prevent unauthorized use without undue impact on the performance of the network. Provide on-line reference dictionaries, encyclopedia, research.

CURRENT TECHNOLOGIES

District standards regarding software will remain, to the best of our ability, as cross-platform compatible as possible. We know that this is difficult at times, especially when an application upgrade is available and there is a demonstrated need to make the change on one platform, but where the upgrade is not yet available on the other platform. The standard for software across the district, listed by category, is as follows:

Productivity:

Microsoft Office 2007 Professional Suite (word processing, spreadsheet, presentation manager, database, desktop publishing), Power Grade, Power School Teacher, PageMaker (desktop publishing), PhotoShop (photo and graphic editor), Alexandria (library automation).

Educational:

Our intent is to provide software to meeting specific curriculum/grade level needs. The following are strong areas of emphasis: math, science, social studies, reading, writing, language arts, geography, history, and graphic design.

Software Subscriptions:

Currently we subscribe to several software subscriptions that are necessary for effective and safe use of the network, as well as offer additional resource materials for instruction.

Desktop Protection:

All Lab and classroom student PC stations are equipped with Deep Freeze Professional which restores the computer to its original installed state when restarted. All Lab and some classroom student Mac stations are equipped with FoolProof or Deep Freeze which locks down the workstation completely.

Virus Protection:

We protect ourselves from viruses on the servers, PC desktops through the use of ESET Antivirus products.

Internet Filtering:

Barracuda Web Filter 310 and Barracuda 200 Spam Filter for Internet content filtering.

FUTURE TECHNOLOGIES

The primary emphasis of our professional development over the next three years will be the integration of technology into the classroom.

LOCAL VIDEO & VIDEO CONFERENCING

Goal

To provide appropriate reception, distribution, and broadcasting of video resources and curriculum related programs to students, staff and community.

Objectives

To provide and implement a video network:

- with the capability of interactive video classrooms and staff development as available through the NMEC or other sources.
- to access video resources within the district, local television and cable offerings, satellite programs and other contracted services.
- to every classroom and all appropriate work areas with monitors or project units of adequate size.
- that can support video cassette recorders (VCR) and/or digital video disc (DVD) players that are directly connected to monitors.
- that may include support materials to implement the program.

CURRENT TECHNOLOGIES

Fairview Area Schools currently is a member of the NMEC (Northern Michigan Electronic Consortium) consisting of schools from both COOR and AMA Intermediate School Districts. Through the NMEC we participate in **live high-speed interactive videoconferencing** with other schools with the purpose of sharing classroom instruction and enhancing curricular choices for students. This videoconferencing is delivered via our NMEC ATM network. We also have the capability of sharing videoconferences on a state-wide level.

Televisions and DVD/VCR's are available for all classrooms to use on-demand for displaying videos as well as displaying images from the computer. Currently we have the following technologies in place:

Elementary School:

8 Televisions and DVD/VCR's are available in every classroom.

Middle/High School:

10 Televisions and DVD/VCR's are available, with one being shared between every two classrooms.

Media Centers:

1 Televisions and DVD/VCR is available for checkout.

FUTURE TECHNOLOGIES

At this time, we have no plans to make any major changes during the three-year life of this technology plan.

TECHNICAL SUPPORT

When viewing the technical support issue from a district perspective, it becomes clear that a coordinated, organized approach will be necessary as we implement voice-video-data computer networks and deal with issues such as security and maintenance.

We currently employ a part-time technology coordinator to meet the needs of on-going technical support areas. These areas primarily consist of the following:

- Administrative offices
- Network administration
- Hardware and software support
- Hardware repair
- Technical instructional support for staff and students
- Technology integration

Primary Job Responsibilities include:

- research/budget/purchase of equipment and software related to technology
- develop district-wide technology policy/procedures
- provide district-wide technology leadership and team building
- contribute to technology grantsmanship activities
- install, configure, and maintain network hardware and operating systems
- troubleshooting technical problems
- upgrade/replace equipment, software, and operating systems
- collaborate with teachers to integrate technology into instruction

- introduce new technology curriculums
- develop technology training curriculum for staff
- manage technology support/assistance system for district
- develop district-wide system for technology repair/maintenance
- provide technology support and assistance for computer laboratories w/network
- diagnosis/resolve technical problems
- provide technology training to students
- create technology operating/training aids
- offer short technology training workshops
- provide technology support and assistance for:
 - classroom and lab computer systems
 - administrative computer systems
 - telephone services
 - library cataloging system
 - district-wide integrated networks
 - audio/video distance learning systems
 - regional networks, distance learning, internet

To ensure that the network and computer systems are properly maintained, we have placed an emphasis on the following:

- *The districts information technology resources are continuously updated:*
 - Technology resources and materials are reviewed annually for currency and for value to the curriculum in supporting student learning. Those resources or materials that no longer support the goals of the instructional program are withdrawn.
 - Hardware is reviewed for replacement within at least five (5) years of purchase and annually thereafter.
- *Equipment receives regular inspection and routine maintenance on at least an annual basis.*
 - Properly trained technical personnel are hired or contracted to perform maintenance and repair.
 - Emergency repairs are made promptly.
 - Records document repair and maintenance of equipment.
- *The district maintains an up-to-date inventory of its information technology resources.*
 - The school's inventory includes software, hardware, printed information and resource materials.
 - All materials and equipment are bar-coded and documented at the time of their acquisition.

- An electronic database serves as the management system of the inventory of the school's information technology resources.
- A walk-through is completed annually to confirm inventory.
- *The districts insurance policy provides coverage for materials and liability.*
 - The insurance policy is updated annually

I. INCREASE ACCESS

We recognize that to effectively integrate technology into our classrooms and core curriculum there are a variety of supporting resources that must be in place. Currently to support technology integration we have:

- A Macintosh lab with twenty-one iMac computers, Appleworks 6, ClarisWorks for Kids, Type to Learn, Reading Counts, a scanner, color laser printer, internet access, and a video projector.
- In our K-6 classrooms, we have five iMac and PowerMac computers per classroom, internet access, Appleworks 6, ClarisWorks for Kids, Type to Learn, Reading Counts, two color inkjet printers, a variety of software programs that teachers have integrated into the curriculum. In addition, one scanner, one laser disc player, and a digital camera are available for K-6 use.
- A PC Lab with twenty-five PCs, one large format laser printer, scanner, CD-RW, video projector, Microsoft Office 2007 Professional Suite, PageMaker, PhotoShop, and internet access.
- In our 7-12 classrooms, we have one PC per classroom, the Microsoft Office XP Professional Suite, access to the internet, stand-alone color inkjet printers, and strategically placed high speed laser printers.
- A Teaching PC Lab with 22 PCs, a laser printer, the Microsoft Office 2007 Professional Suite, AutoCAD, access to the internet, a scanner, and a video projector.
- In our Media Centers, we have eight iMacs, Alexandria for library automation and electronic card catalog, electronic encyclopedias, access to the internet, and other electronic reference materials.
- In our Music Department, we have a Mac G4 with a full MIDI interface for connecting to electronic keyboards and other electronic music devices, as well as the ability to digitally record music.
- Assistive technology (i.e. Kurzweil Reader, DragonSpeak Naturally) is available for students based on student need.

Additional Supporting Resources:

- With the passing of the Child Information Protection Act (CIPA) by congress, as well as the increasing recognition of a need for the protection of our students from inappropriate and harmful information on the internet, we purchased internet filtering software.
- Elementary keyboarding software will continue to be needed for the Mac Lab.
- Keyboard skins for computer labs will continue to be needed to help facilitate teaching keyboarding skills.
- Middle School keyboarding software will continue to be needed to go with Microsoft Word in the teaching lab.
- Templates on CD and workbooks for K-12 will continue to be needed to aid in teaching word processing, database, spreadsheet, and presentation software.
- Teaching materials to teach word processing and software programs for professional development as well as teacher to student.
- Additional video projectors are available for checkout for student and teacher presentations.
- The staff will be responsible for selecting specific curriculum software to incorporate the technology benchmarks. Software vendors, demonstrations, catalogs, etc. will be made available to aid in curriculum selections.

The following are strategies to increase access to technology for all students and all teachers.

1. Grades 7-12 have two computer labs available before and after school with prearrangements. Teachers have access before, during, and after regular school hours, as well as on the weekends.
2. Grades K-6 have a computer lab available at scheduled class times throughout the day. Teachers have access before, during, and after regular school hours, as well as on the weekends.
3. Grades 7-12 have two computers per classroom available to students and staff. Classes are scheduled so that at least one lab is available each hour for student or class scheduling.
4. Grades K-6 have 5 computers per classroom available. Teachers schedule lab time for their own class.
5. All teachers have a laptop or desktop computer made available to them for their own personal use through the State of Michigan.
6. The 7-12 and K-6 libraries have online services available for student and teacher use.
7. Special needs students have specialized technologies available on an as needed basis.
8. Part-time technology coordinator on staff.
9. Software available to help with classroom course needs.

FUNDING AND BUDGET

J. TIMETABLE

Below is a general timetable showing the major endeavors each year.

YEAR ONE

- Increase the utilization of existing technology by coordinating use schedules.
- Continue to provide professional development activities in technology that will enhance the curriculum and improve student learning.
- Begin to develop and build partnerships with business, industry and community which will support the improvement of curricular technology resources.
- Continue to develop curriculum to organize and plan for instruction
- Maintain hardware and update software to provide greater access to technology in the classroom for instructional and classroom management purposes which will meet curricular goals.
- Evaluate use of technology in the classroom.
- Evaluate Technology Plan and update/revise as necessary.

YEAR TWO

- Continue professional development activities in technology that will enhance the curriculum and improve student learning.
- Continue to implement, support and evaluate technology usage in the classroom.
- Maintain hardware and update software to provide greater access to technology in the classroom for instructional and classroom management purposes which will meet curricular goals.
- Evaluate student proficiency in technology.
- Evaluate Technology Plan and update/revise as necessary.

YEAR THREE

- Continue professional development activities in technology that will enhance the curriculum and improve student learning.
- Continue technology integration into the classroom.
- Purchase and/or update and maintain hardware and software to provide greater access to technology in the classroom for instructional and classroom management purposes which will meet curricular goals.
- Continue evaluation of technology use in the curriculum.
- Continue to evaluate student proficiency in technology.
- Continue to provide resources for technology integration.
- Evaluate Technology Plan and begin planning for future needs.

The following shows a detailed timetable for implementation of the various projects and activities defined in this technology plan.

Technology Projects/Activities Proposed Timetable		
Project/Activity	Beginning Date	Ending Date
Develop and use effective PD follow-up strategies.	Ongoing	Ongoing
Disseminate our curriculum integration plan to organize and plan for instruction and application at each grade level.	Ongoing	Ongoing
Provide on-going technical support and professional development that will enhance the curriculum and improve student learning.	Current	Ongoing
Purchase hardware and software to provide greater access to technology in the classroom for instructional and classroom management purposes which will meet curricular goals.	Ongoing	Ongoing
Continue updating and maintaining existing software technology.	Current	Ongoing
Update and maintaining existing software technology.	Current	Ongoing
Maintain a safe, secure and efficient technological environment.	Current	Ongoing
Ensure equitable access to all students and staff, especially those with special needs.	Current	Ongoing
Ensure technology purchases maintain district compatibility standards.	Current	Ongoing
Promote change and technology in the district in all publications.	Current	Ongoing
Invite business partners to join the district technology committee.	Ongoing	Ongoing
Increase the utilization of existing technology by coordinating use schedules.	Ongoing	Ongoing
Purchase software to enhance the ability to integrate technology in the content areas.	Current	Ongoing
Focus on sessions which will allow teachers to implement technology into new and existing curriculum and instruction in order to improve student achievement.	Current	Ongoing

The Technical Support Action Plan also shows a timetable for activities related to technical assistance.

Technical Support Action Plan				
Goal	Action	Assigned to	Start Date	Due Date
Information technology resources are continuously updated.	Annual review of technology resources and materials to ensure fit with instructional goals.	Technology Coordinator	Ongoing	Ongoing
	Begin hardware replacement cycle.	Technology Coordinator	Ongoing	Ongoing
Equipment receives regular inspection and routine maintenance on at least an annual basis.	Properly trained technical personnel are hired or contracted to perform maintenance and repair.	Technology Coordinator	Current	Ongoing
	Emergency repairs are made promptly.	Technology Coordinator	Current	Ongoing
	Records adequately document repair and maintenance of equipment.	Technology Coordinator	Current	Ongoing
A comprehensive security system is in place to safeguard the school's information technology resources.	Evaluate Internet security.	Technology Coordinator	Current	Ongoing
	Evaluate network security.	Technology Coordinator	Current	Ongoing
Maintain an up-to-date inventory of its information technology resources.	Ensure the district's inventory includes software, hardware, printed information and resource materials.	Technology Coordinator	Current	Ongoing
	Ensure all materials and equipment are classified, cataloged and processed at the time of their acquisition.	Technology Coordinator	Current	Ongoing
	Ensure all materials and equipment are marked and documented.	Technology Coordinator	Current	Ongoing
	An electronic database serves as the management system of the inventory of the school's information technology resources.	Technology Coordinator	Current	Ongoing

The roles and responsibilities for the management and coordination of the use of information technology resources throughout the school are clearly defined.	Computer Labs are scheduled for maximum use.	Principals, Media Specialist, Technology Coordinator	Current	Ongoing
	Making maximum use of Elementary classroom computers	Principals, Media Specialist, Technology Coordinator	Current	Ongoing
	ITV room is scheduled for maximum use.	Principals, Counselors, Technology Coordinator	Current	Ongoing
	Miscellaneous technology resources are utilized for instructional purposes.	Technology Coordinator, Media Specialist	Current	Ongoing
The school's insurance policy provides adequate coverage for materials and liability.	Review insurance policy annually and make necessary revisions.	Administrative Assistant, Technology Coordinator	Ongoing	Ongoing
Professional development is provided for district personnel responsible for providing technical support and training.	Seek and disseminate information on upcoming workshops and conferences that will benefit technology support personnel.	Technology Coordinator, Principals, Media Specialist	Ongoing	Ongoing

TOTAL COST

As we've developed our plan, it has become increasingly evident that projecting the total cost for new and replacement hardware and software, network fees, ongoing maintenance, and all other fees associated with implementing this plan, is very difficult. Even more difficult is identifying the exact source of funding. We will continue to aggressively pursue grants and other funding to pay for as much as possible knowing that we cannot count on external funds to support technology and that the majority of the costs need to come from local district funds. We will continue to apply for USF funding for telecommunications as well as maximize our purchasing power by buying through REMC bids. The following is our best projection as to the total cost of implementation over the three-year life of this technology plan.

K. COORDINATION OF RESOURCES

The Technology Committee will review (annually) the technology needs of the district. In doing so, they will recommend to the district's budget committee, the financial needs which will allow the district to maintain and develop the current technology plan and the vision for the future.

Fairview Area Schools is considered a poor district; its per-pupil spending is below the state average. The district has needed to adopt a creative approach to obtaining financing for technology resources.

The current technology in the district has been funded through the following sources: bond issue, local general fund, state "at risk" categorical funds, federal Title funds, Universal Service Fund (USF) discounts, Technology Literacy Challenge Fund Grants (TLCF) and other miscellaneous grants. The district utilizes partnerships with other local school districts, intermediate school districts, community colleges, etc. to reduce the costs of obtaining services such as Internet connectivity and professional development. Use of talented technology staff also reduces the need for contracting more expensive service providers. To illustrate the district's persistence in seeking technology funds, it should be noted that in the past several years the district has received approximately \$462,395 from the TLCF and other technology grants.

Additionally, the district has established a line item in the school's budget to support allocations for the purchase, maintenance and updating of technology. The district will continue to seek all available funding sources in the future. **In planning the technology budget, however, the district makes no assumptions that it will receive such funding.**

The Technology Committee strongly recommends that the district:

Provide local funding for an annual technology budget

This will allow for:

- A cyclical replacement strategy of hardware and software.
- Funding of yearly maintenance and needed repairs.
- Provide professional development so that staff can continue to make the best use of the technology provided by the district.
- Purchase new technology as it becomes available.
- Continued support of the position of technology coordinator who will oversee the implementation of technology within the district.
- Provide technology to improve student learning as well as give students "real-world" experiences using workplace technology.

Seek outside funding for technology

The district will:

- Solicit local, state, and national technology grants (as available) which the district qualifies for.
- Use REMC purchasing power to stretch dollars when purchasing supplies and equipment.
- Explore the possibilities of tuition-based continuing education for staff and, when possible, for the community.
- Form community and business/industry partnerships with local, state, and national businesses and industries.
- Continue to work with the Intermediate School District (I.S.D.) on grants which provide professional development, hardware, and software.
- Leverage Universal Service Funds (USF) to provide for the needs of the network/telephone system, etc.

MONITORING & EVALUATION

L. EVALUATION

The Technology Committee will establish the criteria for evaluating the success of its technology plan. As in documents of this nature, the process will be ever-evolving to meet the needs as indicated within the technology plan. The Technology Committee will meet throughout the school year to discuss the evaluation plan.

The Technology Committee will:

Establish the length of the technology plan

This will allow for:

- Reasonable length of time to implement the steps of the technology plan.
- The addition of new technology as it becomes available.
- Providing adequate professional development for staff (new and experienced).
- Assessing funding from all sources.

Provide guidance in the area of curriculum integration and collaboration

This will allow for:

- Arranging training as well as visitation to other districts to focus on “best practices” in technology usage.
- Calculating the degree to which technology develops the Core Curriculum and exemplifies the school’s mission.

Assess staff proficiency in technology

This will allow for:

- Each teacher to indicate, in their professional growth plan, one (or more, if desired) goals related to technology in which they wish to improve. This would be evaluated by their immediate supervisor as are all professional development plans.
- The establishment of “benchmarks of ability”, so that each teacher will be able to demonstrate his/her level of technology proficiency. These will be based on NETS for Teachers which will be disseminated beginning in fall of 2003. Assessments will be conducted each spring so that staff will know at what level they are at and assist them in defining goals for the following year.

Provide the means for yearly evaluation of the technology plan

This will allow for:

- Written surveys and oral critiques, resulting in guidelines for subsequent strategies.
- Review and revision of the acceptable use policy.
- Considering achievement, the use of appropriate evaluation tools, and enthusiasm of staff and students as a means of evaluating whether or not needs are being met.
- Report from the technology coordinator as to the “state of technology” within the district. This would include maintenance, infrastructure, etc.

Provide greater means for communications

This will allow for:

- Communication with the public as to happenings in technology after normal school hours (i.e. adult education classes, if offered; distant learning opportunities, etc.)
- Reporting to the public, via the Annual School Report, how technology is being used within the district, student achievement related to technology, and “real-world” applications being used by students.
- Inviting the local press to cover technology-related happenings during the school day.

This technology plan will be evaluated each spring using the following form which covers each element in this technology plan and delineates accomplishments, progress toward goals, and areas for improvement.

<i>Technology Plan Evaluation Form</i>				
Required Components	Accomplishments	Progress Toward Goals	Focus Areas for Improvement	Notes
A. Curriculum Goals and Strategies				
B. Curriculum Integration				
C. Strategies for Delivery of Specialized Courses				
D. Parental Involvement and Communication				
E. Collaborations				
F. Strategies for Professional Development				
G. Professional Development Supporting Resources				
H. Identify Infrastructure, Hardware, Software Needs				
I. Increased Access to Technology				
J. Timeline and Budget				
K. Coordination of State and Local Resources				
L. Strategies for Technology Plan Evaluation				
M. Strategies to Monitor the Acceptable Use Policy				

The Technology Planning Team will annually review documents that relate to the success of the overall goals of the district technology plan, completing the necessary forms and writing a narrative interpreting the data. In evaluating the technology plan the district will utilize the following questions developed by the [National Study of School Evaluation](#) (NSSE).

- Has a reasonable timeline for the implementation of each of the action steps been identified? Does it provide support for a sustained effort (possibly as much as 3-5 years) to allow these interventions to become fully implemented?
- Have sufficient resources been allocated to support the implementation of the plan?
- Have specific individuals or committees/task forces been designated as responsible for monitoring the implementation of the technology plan and for disseminating periodic progress reports to the staff and community?
- Which action steps appear to have been successful? How can the district build on the success of these action steps?
- Which action steps appeared to be promising, but did not fulfill their expectations? How can these steps be most appropriately modified without compromising the goal of achieving the objectives of the school improvement plan?
- Are there any additional action steps that need to be incorporated in the district's technology plan to achieve the objective for improvement?
- Have there been any surprises? If so, what lessons have we learned?

M. ACCEPTABLE USE POLICY

At Fairview Area Schools, students under the age of eighteen and their parents are required to read and agree to the terms set forth in the Acceptable Use Policy prior to gaining access to the district network and the internet. Students are instructed as to acceptable and appropriate use of the network and are expected to adhere to these policies and procedures. In addition, the district has outlined clear consequences of misuse of the network and internet, which are explained to students in detail.

The packet that is sent home with students for review includes five documents:

- Letter to parents from the district Superintendent
- Technology Code of Conduct
- Acceptable Use Agreement
- Consequences of Misuse
- Child Safety on the Information Highway

On the following pages is the set of documents each student receives.

Dear Parents or Guardians:

The enclosed form, when signed and returned, will give your child access to the Fairview Area Schools district network and the Internet, a network of information available through the use of a computer. With this technology your child will be able to use technology as an additional tool to enhance classroom instruction as well as electronically access information and research computers around the world as a supplement to other information sources already available.

With this new educational resource also comes responsibility. It is extremely important that you and your child understand and follow the rules and ethics that govern computer networks. Misuse or abuse of Internet access or network accounts will result in disciplinary action, as well as loss of network and World-Wide-Web access. **To assist our efforts with access control as required by the federal Children's Internet Protection Act, we have installed a program called CyberPatrol which is an Internet filtering system.** It is our hope to limit both intentional and unintentional access to objectionable material. We are blocking all personal e-mail except that which flows through our network. In addition, we are blocking all internet chat as well as streaming audio and video.

With this educational resource also comes some risk. In spite of our best efforts to provide a wholesome educational environment and to establish regulations for the Fairview Area School's computer networks, please be aware that there may be occasions when your child can access some information you think is inappropriate for his or her viewing. In particular, you and your child have the opportunity for home access and email through M33Access. Like an "R" or "NR" rated movie, you need to be vigilant about what material is being sent to or from your email address.

Please read and discuss with your child this cover letter, the *Technology Use Agreement*, the *Technology Code of Conduct*, and the publication *Child Safety on the Information Highway*. If you agree with this and are aware of the risks, sign and return the agreement. Your child will then be given access to these instructional technologies. With responsible student use and with the home and the school working in partnership, our computer networks and the Internet will be valuable learning tools.

Sincerely,

Robert Ricketson
Superintendent

TECHNOLOGY CODE OF CONDUCT

(Rules of acceptable use of technology resources)

Use of Fairview Area Schools technology* shall be in support of education and research that is consistent with the District's educational goals, behavior expectations, and mission.

Because electronic communications are so varied and diverse, this code of conduct does not attempt to enumerate all required or proscribed behavior by system users. Use of the District's technology is a privilege, not a right. Users are expected to use common sense and adhere to the norms of behavior in the school community. Technology use is limited to those who have completed the appropriate agreement and have received approval. The District will remove a user account and remove all access to technology if it is determined that the user is engaged in unauthorized activity or is violating this code of conduct.

1. Use Technology in such a way that it does not disrupt others.
2. Be polite, courteous and ethical in all communications and language. Users may not send, publish, download, access, or retrieve any electronic communication or material that may be defamatory, vulgar, abusive, obscene, profane, sexually explicit, threatening, racially or ethically offensive, harassing, or illegal, or anything that violates or infringes on the rights of others.
3. Maintain the integrity of files and data. Accessing, attempting to access, copying, or deleting data files of other users without their consent is not permitted.
4. Be mindful of network security, and immediately report any bugs, errors, or security problems to the system administrator.
5. Users may not make any attempt to destroy the data of any other user or any technology system, including creating or sending computer viruses, Trojan horses, worms, or similar code.
6. Computer hardware, software, networking equipment, printers, and other technology should not be destroyed, modified, or abused in any way.
7. Treat information created by others as the private property of the creator. Respect copyrights by not illegally copying, sending, or distributing copyrighted software, work, or other material.

* "Technology" includes, but is not limited to, computers, network servers, network equipment, peripherals, and software, intranet and internet systems.

8. Protect your password from others and use only your password to gain access to technology systems. Users may not attempt to access local District or internet materials on sites that are blocked or password protected or attempt to use technology while access privileges are suspended. Hacking or attempting to break into the network is not permitted.
9. Users should always use technology systems, the network, and the internet as a resource to further their own education and that of others. Use technology to access only educationally relevant and curriculum specific material. Assist others in the use of technology systems and help others who are looking for ideas and information.
10. Unlicensed software or software that does not support curriculum is not permitted.
11. District technology may not be used for any commercial purposes or financial gain.
12. Users may not use District technology for anything contrary to law or to solicit others to break any law.
13. Using District technology systems for any advertisement or solicitation without approval from the Superintendent is prohibited.
14. Users may not use electronic mail to send unsolicited, bulk, chain, harassing, anonymous, or other messages or electronic communications that are commonly considered an annoyance to recipients or degrade system performance.
15. Use our limited network bandwidth responsibly and in such a way that system performance, both on our internal network and the internet, is not compromised. Use of non-curriculum related resources such as streaming video and audio and internet games are strictly prohibited.

STAFF & STUDENT REQUEST FOR ACCESS TO TECHNOLOGY

The District provides access to technology* to students and staff so as to promote and enhance the learning of our students through communication, innovation, and sharing of resources. Access to the network, internet, and other technology is a privilege, not a right, and the District may restrict, suspend, or terminate any staff or student user's account or other access to technology with or without cause at any time. In requesting an account for access to the network, the user agrees to the following terms and conditions. Failure to abide by these terms and conditions, or any of the District's rules, regulations, or policies for computer, network, internet, or other technology use, will result in the loss of privileges, disciplinary action, and/or legal action.

1. Use of District technology must be for the purpose of education and research consistent with the goals of the District.
2. All use of technology must be in accord with the District's Technology Code of Conduct (rules of acceptable use of technology resources), as updated from time to time by the District.
3. The District makes no warranties of any kind, whether expressed or implied, for the service it is providing. The District will not be responsible for any damages the user suffers, including but not limited to the loss of data, delays, non-deliveries, or service interruptions caused by its negligence or user errors or omissions.
4. The network provides access to third-party data and information over which the District has no control. Though the District makes efforts to block inappropriate material, users may be exposed to defamatory, inaccurate, or otherwise offensive material. Use of the network or any information obtained via the network is at the user's own risk. The District specifically denies any responsibility for the accuracy or content of information obtained through its services.
5. The user is solely responsible for all charges and fees, including outside telephone, printing, and merchandise purchases made through the network. The District is not a party to such transactions and shall not be liable for any costs or damages, whether direct or indirect, arising out of network transactions by the user.
6. The user agrees to indemnify the District for any losses, costs, or damages, including reasonable attorney's fees, incurred by the District relating to or arising out of any breach of the terms of this request for network access.

* "Technology" includes, but is not limited to, computers, network servers, network equipment, peripherals, software, intranet and internet systems.

7. The user acknowledges that the District's computer network and all technology systems belongs solely to the District and that any files, records, electronic mail or other communication may be examined, edited, or deleted by the District at any time, in accord with District policy or regulations. In general, electronic mail in personal accounts will not be inspected without the consent of the sender or a recipient, except as necessary to investigate a complaint. The user should take note that a right to privacy does not apply when using district technology.
8. The user is responsible for regular and prompt payment of any fees charged by the District for network use.
9. The district has installed a filtering system to assist with management of offensive materials. In keeping with that filtering, the district is blocking all private e-mail such as Yahoo or Hotmail. This is in keeping with our mission statement which directs us to be focused upon educational technology.

Fairview Area Schools *TECHNOLOGY* USE AGREEMENT*

This form must be signed and returned to the school before any school technology can be used.

STUDENTS & STAFF:

I understand and agree to abide by the terms of this request for technology access, the District Technology Code of Conduct (rules for acceptable use technology resources), and the Fairview Area School’s Board of Education Technology, Computer Network, and Filtering Software Policies and Regulations 4500, 4510, and 4520. I further understand that should I commit any violation, my access privileges will be revoked, and school disciplinary and/or appropriate legal action may be taken. In consideration for using the District's network connection and having access to public networks, I hereby release the District and its Board members, employees, and agents from any claims and damages arising from my use, or inability to use, the network, internet, computers, or any other form of technology. I acknowledge and agree that Fairview Area Schools has the right to review, edit, or remove any materials installed, stored, or distributed on or through the network and hereby waive any right to privacy.

STUDENTS & STAFF – Please complete the following:	

Printed Name of User (First, Middle Initial, Last)	
_____	_____
Street Address, City/Town	Telephone Number
_____	_____
User Signature	Today’s Date
STUDENTS ONLY – Please complete the following:	
_____	_____
Anticipated Year of Graduation	Current Grade (K-12)

FOR STUDENT REQUESTS:

I have read this request for network access as well as the District Technology Code of Conduct (rules for acceptable use technology resources), and the Fairview Area School’s Board of Education Technology, Computer Network, and Filtering Software Policies and Regulations 4500, 4510, and 4520. I understand that it is designed for educational purposes. I recognize that it is impossible for the District to restrict access to all controversial and inappropriate materials available on the network. I will hold harmless the District, its employees, agents, and Board members for any harm caused by materials obtained via the network, internet, or other technology systems. I accept full responsibility for supervision if and when my child’s use is not in a school setting. I consent to the unrestricted release of any of my child's work, materials, and/or records which my child voluntarily or accidentally places in public-access storage areas on the District network, internet, or other technology systems. I have discussed the terms of this request with my child, and hereby give permission for my child to access school technology systems and request that my child be allowed access to the District network, internet, and other technology systems in accord with these terms.

PARENTS/GUARDIANS (if student is under 18 years of age) – Please complete the following:	

Printed Name of Parent/Guardian (First, Middle Initial, Last)	
_____	_____
Parent/Guardian Signature	Telephone Number
_____	_____
Parent/Guardian Signature	Today’s Date

* “Technology” includes, but is not limited to, computers, network servers, network equipment, peripherals, software, intranet and internet systems.

**Fairview Area Schools
DISTRICT WEB SITE**

(Student photos, first name, and/or work)

Fairview Area Schools web site is intended to offer students, staff, and the community a variety of information about student and staff activities, school policies and procedures, and links to educationally relevant web sites and sites of general interest to the community.

Student photos, first names, and student work will often be used in the course of posting such information. Fairview Area Schools requires that permission of a parent or guardian must be on file prior to using a student's photo, first name, and/or original work on District web pages. Directory information of students (last name, address, telephone number, and other personal information) **will not** be indicated on District web pages or used, in any form, on any District web page.

I hereby (*parent/guardian: check one*)

_____ give

_____ expressly withhold

Permission for my child's photo and/or first name to be published individually or part of a small group on District web pages.

In addition, I hereby (*parent/guardian: check one*)

_____ do

_____ do not

Give permission for my child's photo and/or first name to be published on District web pages as part of a "team" or other large group photo.

PARENTS/GUARDIANS (if student is under 18 years of age) – Please complete the following:

Printed Name of Parent/Guardian (First, Middle Initial, Last)

Telephone Number

Parent/Guardian Signature

Today's Date

Fairview Area Schools

Network/Internet Misuse Consequences

(March 2003 -- this revision supersedes all previous revisions)

Level One Offense

- First offense: verbal warning with documentation
- Second offense: parent notification with return signature required and loss of access until parent response
- Third offense: parent conference and loss of access with length of time to be determined by administrator and reporting staff

Types of offenses (examples):

- Exploring an inappropriate Web site (depends on perceived intent)
- Exploring Web sites that are not curriculum related
- Use of personal email
- Misuse of the computer desktop (inappropriate screen savers, wallpaper, etc.)
- Infringing on the privacy of others
- Sharing passwords with others
- Inappropriate printing

Level Two Offense

- First Offense: parent conference and loss of access length of time to be determined by administrator and reporting staff
- Second Offense: loss of access for 12 weeks
- Third Offense: loss of access for remainder of school year

Types of offenses (examples):

- Exploring an inappropriate Web site (depends on perceived intent)
- Modifying the operating system
- Installing or running illegal software
- Accessing or modifying files and documents that belong to others
- Stealing passwords
- Modifying system permissions

Level Three Offense

- First Offense: loss of access for 12 weeks—possible administrative action (i.e. Saturday school or long-term suspension)—contact law enforcement as appropriate
- Second Offense: loss of access for remainder of school year—definite administrative action— contact law enforcement as appropriate

Types of offenses (examples):

- Exploring an inappropriate Web site (depends on perceived intent)
- Copyright infringement
- Downloading and/or use of obscene graphics and/or sounds
- Inappropriate software (i.e. system software with intent to hack the operating system, obscene/derogatory software, etc.)
- Software or hardware theft or vandalism
- Use of obscene, defamatory or derogatory words in email or electronically generated documents (i.e. slander, gender, racial slurs, etc.)

Note: This document listing “types of offenses” is not intended to be inclusive. What are listed here are simply examples of the nature of offenses that fall within a specific offense level. It would be impossible to list all possible offenses in this document. When offenses occur that are not specifically listed, they will be interpreted as falling “within the spirit of” the offense type, and action will be taken considering the nature of the offense.

Child Safety on the Information Highway

by Lawrence J. Magid

(c) 1998 National Center for Missing and Exploited Children

"'Cyberspace,' the 'Web,' the 'Net,' the 'Information Highway'" —

Whatever it's called, millions of people are now going online to exchange electronic mail, surf the World Wide Web, post and read messages in newsgroups (sometimes called bulletin boards), and participate in chat groups and many other online activities.

There are a number of ways to get online. In addition to major commercial online services, there are thousands of Internet Service Providers (ISPs) that provide Internet access. Telephone companies, cable TV companies, and even some local newspapers offer Internet access, usually for a monthly fee. Although most people use personal computers to get online, it's now possible to purchase a special adapter that allows you to access the Internet from a TV set.

ISPs and online services generally do everything they can to provide their subscribers with an enjoyable, safe, and rewarding online experience, but it's not possible for these companies to police everyone who uses their service anymore than a local government can control the behavior of its citizens. Besides, once you're connected to the Internet, you're able to exchange information with people who are signed on with other ISPs and online services. The Internet is a vast global network of networks that's not governed by any company or government.

Anyone in the world — companies, governments, organizations, and individuals — can publish material on the Internet. An ISP links you to these sites, but it can't control what is on them. It's up to individuals to make sure that they behave in a way that's safe and appropriate.

The Benefits of the Information Highway

The vast array of services that you currently find online is constantly growing. **Reference information** such as news, weather, sports, stock quotes, movie reviews, encyclopedias, and airline fares are readily available online. Users can conduct **transactions** such as trading stocks, making travel reservations, banking, and shopping online. You can find information about your local schools and government, read an out-of-town newspaper, or obtain vital health information. Millions of people **communicate** through electronic mail (E-mail) with family and friends around the world. Others use the public message board chat areas to make new friends who share common interests. You can even use the Internet to watch video and listen to audio programs produced by major media companies, businesses, organizations, and even individuals. As an **educational and entertainment tool** users can learn about virtually any topic, visit a museum, take a college course, or play an endless number of computer games with other users or against the computer itself.

"As an educational...tool users can learn about virtually any topic..."

Most people who go online have mainly positive experiences. But, like any endeavor — traveling, cooking, or attending school — there are some risks. The online world, like the rest of society, is made up of a wide array of people. Most are decent and respectful, but some may be rude, obnoxious, insulting, or even mean and exploitative. Children get a lot of benefit from being online, but they can also be targets of crime and exploitation in this as in any other environment. Trusting, curious, and anxious to explore this new world and

the relationships it brings, children need parental supervision and common-sense advice on how to be sure that their experiences in "cyberspace" are happy, healthy, and productive.

Putting the Issue in Perspective

Although there have been some highly publicized cases of abuse involving the Internet and online services, reported cases are relatively infrequent. Of course, like most crimes against children, many cases go unreported, especially if the child is engaged in an activity that he or she does not want to discuss with a parent.

The fact that crimes are being committed online, however, is *not* a reason to avoid using these services. To tell children to stop using these services would be like telling them to forgo attending school because students are sometimes victimized there.

A better strategy would be to instruct children about both the benefits and dangers of cyberspace and for them to learn how to be "street smart" in order to better safeguard themselves in any potentially dangerous situation.

What Are the Risks?

There are a few risks for children who use the Internet or online services. Teenagers are particularly at risk because they often use the computer unsupervised and because they are more likely than younger children to participate in online discussions regarding companionship, relationships, or sexual activity. If you have a teen in your family or you are a teenager, check out *Teen Safety on the Information Highway* at www.missingkids.com or order a free copy by calling 1-800-843-5678.

"Teenagers are particularly at risk because... they are more likely... to participate in online discussions regarding companionship..."

Some risks are

Exposure to Inappropriate Material

One risk is that a child may be exposed to inappropriate material that is sexual, hateful, or violent in nature, or encourages activities that are dangerous or illegal.

Physical Molestation

Another risk is that, while online, a child might provide information or arrange an encounter that could risk his or her safety or the safety of other family members. In a few cases, pedophiles have used E-mail, bulletin boards, and chat areas to gain a child's confidence and then arrange a face-to-face meeting.

Harassment

A third risk is that a child might encounter E-mail or chat/bulletin board messages that are harassing, demeaning, or belligerent.

Legal and Financial

There is also the risk that a child could do something that has negative legal or financial consequences such as giving out a parent's credit card number or doing something that violates another person's rights. Legal issues aside, children should be taught good "netiquette" which means to avoid being rude, mean, or inconsiderate.

How Parents Can Reduce the Risks

While children need a certain amount of privacy, they also need parental involvement and supervision in their daily lives. The same general parenting skills that apply to the "real world" also apply while online.

If you have cause for concern about your children's online activities, talk to them. Also seek out the advice and counsel of teachers, librarians, and other Internet and online service users in your area. Open communication with your children, utilization of such computer resources, and getting online yourself will help you obtain the full benefits of these systems and alert you to any potential problem that may occur with their use. If your child tells you about an upsetting person or thing encountered while online, don't blame your child but help him or her avoid problems in the future. Remember — how you respond will determine whether they confide in you the next time they encounter a problem and how they learn to deal with problems on their own.

"While children need a certain amount of privacy, they also need parental involvement."

Beyond these basics, there are some specific things that you should know about the Internet. For instance, did you know that there are web sites and newsgroups that have material that is hateful, is violent, or contains other types of material that parents might consider to be inappropriate for their children? It's possible for children to stumble across this type of material when doing a search using one of the web sites that is specifically designed to help people find information on the Internet. Most of these sites (called "search engines") do not, by default, filter out material that might be inappropriate for children, but some offer a child-safe option and some are designed specifically for use by children.

Also the Internet contains web sites, newsgroups, and other areas designed specifically for adults who wish to post, view, or read sexually explicit material including stories, pictures, and videos. Some of this material is posted on web sites where there is an attempt to verify the user's age and/or a requirement for users to enter a credit card number on the presumption that children do not have access to credit card numbers. Other areas on the Internet make no such effort to control access. Nevertheless, consider monitoring your credit card bills for such charges.

Some online services and ISPs allow parents to limit their children's access to certain services and features such as adult-oriented web sites and "chat" rooms and bulletin boards. There may be an area set aside just for kids where you don't have to worry about them stumbling onto inappropriate material or getting into an unsupervised chat.

At the very least, keep track of any files your children download to the computer, consider sharing an E-mail account with your children to oversee their mail, and consider joining your children when they are in private chat areas.

"The best way to assure that your children are having positive online experiences is to stay in touch with what they are doing."

In addition, there are filtering features built into the popular Internet browsers (the software you use to access the World Wide Web) that empower parents to limit their children's access only to those sites that have been rated appropriate for children. Other useful tools are software programs that block web sites, newsgroups, and chat areas that are known to be inappropriate for children. Most of these programs can be configured by the parent to filter out sites that contain nudity, sexual content, hateful or violent material, or that advocate the use of drugs, tobacco, or alcohol. Some can also be configured to prevent children from revealing information about themselves such as their name, address, or telephone number. You can find a directory of these filtering programs at www.safekids.com/filters.htm.

While technological child-protection tools are worth exploring, they're not a panacea. Regardless of whether you choose to use a filtering program or an Internet rating system, the best way to assure that your children are having positive online experiences is to stay in touch with what they are doing. One way to do this is to spend time with your children while they're online. Have them show you what they do, and ask them to teach you how to use the Internet or online service. You might be surprised at how much you can learn from your kids.

Guidelines for Parents

By taking responsibility for your children's online computer use, parents can greatly minimize any potential risks of being online. Make it a family rule to

- Never give out identifying information — home address, school name, or telephone number — in a public message such as chat or bulletin boards (newsgroup), and be sure you're dealing with someone that both you and your child know and trust before giving out this information via E-mail. Think carefully before revealing any personal information such as age, marital status, or financial information. Do not post photographs of your children on web sites or newsgroups that are available to the public. Consider using a pseudonym, avoid listing your child's name and E-mail address in any public directories and profiles, and find out about your ISP's privacy policies and exercise your options for how your personal information may be used.
- Get to know the Internet and any services your child uses. If you don't know how to log on, get your child to show you. Have your child show you what he or she does online, and become familiar with all the things that you can do online.
- Never allow a child to arrange a face-to-face meeting with another computer user without parental permission. If a meeting is arranged, make the first one in a public place, and be sure to accompany your child.

"If a meeting is arranged, make the first one in a public place, and be sure to accompany your child."

- Never respond to messages or bulletin board items that are suggestive, obscene, belligerent, threatening, or make you feel uncomfortable. Encourage your children to tell you if they encounter such messages. If you or your child receives a message that is harassing, of a sexual nature, or threatening, forward a copy of the message to your ISP, and ask for their assistance. Instruct your child **not** to click on any links that are contained in E-mail from persons they don't know. Such links could lead to sexually explicit or otherwise inappropriate web sites.
- If someone sends you or your children messages or images that are obscene, lewd, filthy, or indecent with the intent to harass, abuse, annoy, or threaten, or if you become aware of the transmission, use, or viewing of child pornography while online, immediately report this to the National Center for Missing and Exploited Children's CyberTipline at 1-800-843-5678 or www.missingkids.com/cybertip.
- Remember that people online may not be who they seem. Because you can't see or even hear the person it would be easy for someone to misrepresent him- or herself. Thus, someone indicating that "she" is a "12-year-old girl" could in reality be a 40-year-old man.
- Remember that everything you read online may not be true. Any offer that's "too good to be true" probably is. Be very careful about any offers that involve you coming to a meeting, having someone visit your house, or sending money or credit card information.

- Set reasonable rules and guidelines for computer use by your children (see "My Rule for Online Safety" on the back cover). Discuss these rules and post them near the computer as a reminder. Remember to monitor your children's compliance with these rules, especially when it comes to the amount of time your children spend on the computer. A child's excessive use of online services or the Internet, especially late at night, may be a clue that there is a potential problem. Remember that personal computers and online services should not be used as electronic babysitters.
- Check out blocking, filtering, and ratings.
- Be sure to make this a family activity. Consider keeping the computer in a family room rather than the child's bedroom. Get to know their "online friends" just as you get to know all of their other friends.

My Rules for Online Safety

- I will not give out personal information such as my address, telephone number, parents' work address/telephone number, or the name and location of my school without my parents' permission.
- I will tell my parents right away if I come across any information that makes me feel uncomfortable.
- I will never agree to get together with someone I "meet" online without first checking with my parents. If my parents agree to the meeting, I will be sure that it is in a public place and bring my mother or father along.
- I will never send a person my picture or anything else without first checking with my parents.
- I will not respond to any messages that are mean or in any way make me feel uncomfortable. It is not my fault if I get a message like that. If I do I will tell my parents right away so that they can contact the online service.
- I will talk with my parents so that we can set up rules for going online. We will decide upon the time of day that I can be online, the length of time I can be online, and appropriate areas for me to visit. I will not access other areas or break these rules without their permission.

About this Document

This brochure was written by Lawrence J. Magid, a syndicated columnist for the *Los Angeles Times*, who is author of *The Little PC Book* (Peachpit Press) and host of www.safekids.com, a web site devoted to keeping kids safe in cyberspace. He is also the author of *Teen Safety on the Information Highway*, a free brochure that is also published by the National Center for Missing and Exploited Children. *Child Safety on the Information Highway* was jointly produced by the National Center for Missing and Exploited Children and Internet Alliance (formerly Interactive Services Association), PO Box 65782, Washington, DC 20035-5782, 202-955-8091, ia@internetalliance.org. The first edition of this brochure was created with the generous sponsorship of America Online®, CompuServe®, Delphi™ Internet, e•World, GENie®, Interchange™ Online Network, and Prodigy® Services.

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APPENDIX A

OVERVIEW OF TECHNOLOGY CONTENT STANDARDS

OVERVIEW OF TECHNOLOGY CONTENT STANDARDS

All students will:

Use and transfer technological knowledge and skills for life roles (family member, citizen, worker, consumer, lifelong learner);

Use technologies to input, retrieve, organize, manipulate, evaluate, and communicate information;

Apply appropriate technologies to critical thinking, creative expression, and decision-making skills;

Employ a systematic approach to technological solutions by using resources and processes to create, maintain, and improve products, systems, and environments;

Apply ethical and legal standards in planning, using, and evaluating technology; and

Evaluate the societal and environmental impacts of technology and forecast alternative uses and possible consequences to make informed civic, social, and economic decisions.

Using and Transferring

Using Information Technologies

***Applying Appropriate
Technologies***

***Employing Systematic
Approach***

Applying Standards

Evaluating and Forecasting

USING AND TRANSFERRING

Content Standard 1: All students will use and transfer technological knowledge and skills for life roles (family member, citizen, worker, consumer, lifelong learner).

Early Elementary	Later Elementary	Middle School	High School
<i>(Family Member)</i>			
1. Identify technology in the home.	1. Compare/contrast the impact of technology in the home today and in the past.	1. Identify a need and create or develop a new technology for the home.	1. Identify a need and create or develop a new technology for the home. 2. Identify an emerging technology and forecast impacts of that technology on the family.
<i>(Consumer)</i>			
2. Identify technological sources of information.	2. Compare/contrast the impact of messages from different technological sources.	2. Use technology to create a message that promotes a product/service.	3. Participate in cooperative research and development projects which study consumer satisfaction of comparable products and services.
<i>(Consumer)</i>			
3. Identify technological means used to buy and sell products and services.	3. Compare/contrast the technological means for financial transfer.	3. Design and build a model of a technological system to buy or sell a product or service.	4. Participate in a real world context which uses a technological system for financial transfers.

(Citizen)

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| 4. Recognize/explore technological systems in your community. | 4. Compare/contrast technological resources of two different communities. | 4. Demonstrate technological resources and systems that might be used to address social, civic, and economic issues. | 5. Identify a social, civic or economic issue and propose a technological solution. |
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(Worker)

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| 5. Identify various technologically related careers. | 5. Identify job opportunities and ways technology is related to these opportunities. | 5. Use a variety of technological resources to explore career paths and identify areas of interest. | 6. Evaluate present and future job markets in technology related fields. |
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(Life Long Learner)

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| 6. Demonstrate the proper care of technological systems and components. | 6. Demonstrate the proper care of technological systems and components. | 6. Demonstrate the proper care of technological systems and components. | 7. Demonstrate the proper care of technological systems and components. |
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USING INFORMATION TECHNOLOGIES

Content Standard 2: All students will use technologies to input, retrieve, organize, manipulate, evaluate, and communicate information.

Early Elementary	Later Elementary	Middle School	High School
<i>(Communication)</i>			
1. Input and retrieve information from a technological system (including the practice of word processing skills).	1. Interpret, analyze and evaluate information with the assistance of technology (voice, data, video, graphics, etc).	1. Demonstrate skill using technologies to prepare, evaluate and synthesize information collected and stored (voice, data, video, graphics, etc).	1. Use technologies to demonstrate skills and a systematic solution to a problem(s) (voice, data, video, graphics, etc).
<i>(Retrieve / Manipulate / Communicate)</i>			
2. Process information retrieved electronically.	2. Use search strategies to locate and retrieve information electronically. 3. Retrieve and communicate information using a technological system (voice, data, video, graphics, etc).	2. Gather information about a given technological problem, develop possible solutions, and generate a best solution using multiple technologies. 3. Retrieve, communicate and input information using a technological system (voice, data, video, graphics, etc).	2. Given a scenario, develop multiple options and present the solutions using a variety of technologies. 3. Retrieve, communicate, organize, evaluate, and manipulate information using a technological system (voice, data, video, graphics, etc).
<i>(Evaluate)</i>			
4. Evaluate information received through technologies.	4. Evaluate information received through technologies.	4. Evaluate information received through technologies.	4. Evaluate information received through technologies.

APPLYING APPROPRIATE TECHNOLOGIES

Content Standard 3: All students will apply appropriate technologies to critical thinking, creative expression, and decision making skills.

Early Elementary	Later Elementary	Middle School	High School
<i>(Decision - Making)</i>			
1. Explore technological solutions to a problem.	1. Compare and contrast technological solutions to problems of today and the past.	1. Investigate how different cultures use technology to solve similar problems.	1. Apply technological procedures to overcome obstacles when implementing a solution to a problem.
<i>(Creative Expression)</i>			
2. Use a variety of technologies to express ideas (voice, data, video, graphics, etc).	2. Use technology to communicate a solution for a variety of purposes (voice, data, video, graphics, etc).	2. Use technologies as tools for creative expression and communication of ideas (voice, data, video, graphics, etc).	2. Represent ideas using a combination of technologies aimed at reaching a diverse audience (voice, data, video, graphics, etc).
<i>(Decision - Making / Critical Thinking)</i>			
3. Identify several technological options to perform a task. 4. Use technologies to organize thoughts in a logical process (voice, data, video, graphics, etc).	3. Analyze problems and identify technologies and systems that could solve them. 4. Use technologies to organize thoughts in a logical process (voice, data, video, graphics, etc).	3. Use several technological methods to perform a given task and analyze advantages and disadvantages of each. 4. Use technologies to organize thoughts in a logical process (voice, data, video, graphics, etc).	3. Evaluate decisions using technology. 4. Use technologies to organize thoughts in a logical process (voice, data, video, graphics, etc).

EMPLOYING SYSTEMATIC APPROACH

Content Standard 4: All students will employ a systematic approach to technological solutions by using resources and processes to create, maintain and improve products, systems, and environments.

Early Elementary	Later Elementary	Middle School	High School
(Systems)			
1. Use the basic terminology for a variety of technological systems (i.e. input, process, output, and feedback).	1. Construct technological systems which use input, process, output, and feedback.	1. Construct technological systems that exhibit continuous improvement.	1. Design and construct technological systems that exhibit continuous improvement.
(Graphic Technological Solutions)			
2. Presents technological solutions using sketches and drawings.	2. Presents technological solutions using scale and proportion in sketches and drawings.	2. Presents technological solutions using scale and proportion in multiview sketches and drawings.	2. Creates working drawings from sketches to meet appropriate industrial standards.
(Measurement)			
3. Use measurement to determine lengths, widths, and heights to construct and record technological solutions to problems.	3. Use measurements of dimension (length, area, volume) to construct technological solutions to problems.	3. Use measurements of dimension and capacity as criteria to produce and analyze technological solutions to problems.	3. Use measurements of dimension and capacity as criteria to produce and evaluate technological solutions to problems.
4. Transfer and record measurements from technological solutions to problems.	4. Transfer measurements for the purposes of marking and layout in producing technological solutions to problems.	4. Transfer measurements within appropriate tolerances for the purposes of producing technological solutions to problems.	4. Transfer measurements within appropriate tolerances for the purposes of producing and evaluating technological solutions to problems.

(Processes)

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| 5. Explore and compare tools used in cutting, forming, fastening, and finishing materials to produce technological solutions to problems. | 5. Analyze, select, and use the appropriate tools for cutting, forming, fastening, and finishing materials to produce technological solutions to problems. | 5. Use industrial tools, materials, equipment, and processes to produce prototypes and technological solutions to problems. | 5. Use industrial tools, materials, equipment, and processes to design and produce products addressing given technological problems. |
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(Safety)

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| 6. Use appropriate tools, materials, equipment, and processes in a safe manner to design a technological solution to a given problem. | 6. Show/demonstrate the appropriate use of tools, materials, equipment, and processes in a safe manner to design a technological solution to a given problem. | 6. Forecast potential hazards, establish guidelines for safe behavior, and demonstrate the understanding for common safety practices in a technological environment. | 6. Investigate, analyze, and assess potential safety hazards, establish guidelines for safe behavior, and adhere to common safety practices while around or participating in the technological solution to a problem. |
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(Systematic Approach)

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| 7. Identify the components (input, process, output, feedback) and follow a basic systematic approach (process folio) to design technological solutions to a given problem. | 7. Demonstrate a basic systematic approach to design a technological solution to a given problem using a process folio. | 7. Apply a systematic approach to identify a current societal need that requires technologies, determine and assess solutions, select the best solution, develop the product, process, or service that meets the need, and evaluate. | 7. Apply a systematic approach to design solutions to technological problems using investigation, analysis and idea development, proposals, planning, making a prototype of the solution, testing and evaluation of the prototype, and self assessment. |
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(Technological Products & Systems)

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| 8. Create a simple quality prototype using appropriate tools, materials, equipment, and processes to solve a given technological problem. | 8. Design/redesign a quality technological prototype to meet a societal or environmental need. | 8. Design/redesign a quality technological prototype to meet a societal or environmental need using investigation, analysis and idea development, proposals, planning, making a prototype of the solution, testing and evaluation of the prototype, and self assessment. | 8. Adapt solutions to the needs and values of individuals, groups, society, and environment when designing/redesigning problem solutions and creating a quality end product to meet the need. |
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(Resources)

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| 9. Identify how resources and processes are used to help people in society accomplish tasks to achieve a technological solution to a problem. | 9. Demonstrate how the appropriate use of resources and processes affect the environment and societal needs to achieve a technological solution to a problem. | 9. Compare and contrast different resources and processes to evaluate technological solutions to a problem. | 9. Analyze resources and processes to choose the best combination to create a technological solution to a problem. |
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APPLYING STANDARDS

Content Standard 5: All students will apply ethical and legal standards in planning, using, and evaluating technology.

Early Elementary	Later Elementary	Middle School	High School
<i>(Planning & Evaluating)</i>			
1. Practice ethical and legal standards related to technology in the home and at school (e.g. follow classroom rules, respect personal property, etc).	1. Explain the need for laws and regulations related to technologies (e.g. safety, proper care and use tools, etc).	1. Hypothesize legal and ethical factors in the design and development of a new product (patents, copyright).	1. Analyze and interpret the impacts of differing ethical and legal standards in the age of global competitiveness. 2. Explain the associated rights and responsibilities of applying for legal documents (e.g., patents, copyrights).
<i>(Planning & Using)</i>			
2. Recognize legal authority in situations involving technology and the well being of others.	2. Identify legal and ethical problems resulting from technological achievements.	2. Provide examples of situations where the use of technology might be affected by legal or ethical considerations.	3. Establish an action plan to solve a technology related problem and assess the plan applying ethical and legal principles.

(Using & Evaluating)

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| 3. Participate in the creation of a rule related to technology and explain its impact on others. | 3. Adhere to copyright, patent, freedom of information, state and federal laws as related to the uses of technology. | 3. Follow established guidelines and laws of privacy and ownership related to technology. | 4. Analyze current and emerging issues (e.g., ethical, social, environmental, legal, political, privacy) related to technology.
5. Identify and evaluate solutions for solving the ethical problems associated with using tools, equipment, materials, and processes in a technological problem. |
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(Using)

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| 4. Explain how individuals are responsible for their technology related actions and decisions. | 4. Practice ethical and legal selection and use of technological resources. | 4. Understand and practice ethical and legal standards for technologies. | 6. Understand and practice the concept of lifelong learning about technology within an ethical/legal context.
7. Analyze the extent to which organizational purposes and actions are compatible with personal standards in the effective and appropriate use of technology. |
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EVALUATING AND FORECASTING

Content Standard 6: All students will evaluate the societal and environmental impacts of technology and forecast alternative uses and possible consequences to make informed civic, social, and economic decisions.

Early Elementary	Later Elementary	Middle School	High School
<i>(Economic)</i>			
1. Describe how a technology could be used in a career or occupation.	1. Demonstrate how people in different occupations and careers use technology to do their work.	1. Investigate the effects of the growth and development of technology on careers and occupations. 2. Analyze present and future job markets in specific technology related careers and occupations.	1. Evaluate current uses of technology on one's personal career and occupational goals. 2. Analyze and forecast the effects of technology on one's personal career and occupational goals.
<i>(Civic / Social)</i>			
2. Give examples of the effects of technology on life in the past and present.	2. Forecast the possible effects technology could have on our society.	3. Compare and contrast how technological development affects and impacts different groups, communities, and cultures in our society.	3. Evaluate the direct and indirect effects and impacts of technological developments on national and international issues.
<i>(Social)</i>			
3. Compare and contrast individuals' experiences and decisions about technology.	3. Show examples of how technology affects and impacts one's current life.	4. Identify, compare, and contrast technological impacts and the effects they could have on one's current and future life.	4. Forecast the impact of technology on individuals in our future society, based on present trends.

(Civic / Social / Economic)

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| 4. Identify the advantages and disadvantages from the application of a technology to a civic, economic, or societal problem. | 4. Identify the advantages and disadvantages from the application of a technology to a civic, economic, or societal problem. | 5. Illustrate the social, environmental, civic, and economic consequences of a particular technology.
6. Provide examples of technological solutions that have led to social, civic, economic, or environmental problems and propose methods for addressing these problems. | 5. Propose guidelines for appropriate and effective use of technology in our society as a whole or in a specific sector of society.
6. Formulate a position and support it about the roles of the government and private sector in creating and influencing policy concerning the use of technology. |
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(Civic / Social)

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| 5. List and describe safe and unsafe aspects of technology in relation to oneself and others. | 5. Classify and discuss the safe and unsafe factors of technological applications as they apply in the home, school, community, and/or the workplace. | 7. Investigate current technological applications and present possible safe and unsafe consequences in the continued use of these applications. | 7. Frame and support a position confirming that a technological application is safe and appropriate for individuals and society in general. |
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(Civic / Social)

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| 6. Identify how technology has impacted the environment. | 6. Describe how technological advances have impacted society and the environment. | 8. Identify and explain how environmental factors contribute to the development of technology and their impacts on society. | 8. Identify and explain how environmental factors contribute to the development of technology and their impacts on society. |
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(Social)

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| 7. Recognize and explain the historical impact of technological solutions to problems and societal needs. | 9. Recognize the historical impact on the development of technology in relationship to the production of tools, equipment, and products. | 9. Assess the historical development of technology regarding the production of tools, equipment, and products in relationship to current societal and environmental needs. |
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(Civic / Social / Economic)

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| 7. Study and predict the consequences of the development of a new technology. | 8. Research and predict the consequences of the development of a new technology. | 10. Research, present, and defend forecasts of consequences of new technological developments. | 10. Propose, research, and justify the introduction of new technologies. |
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APPENDIX B

NETS FOR STUDENTS

Technology Foundation Standards for Students

1. Basic operations and concepts

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

2. Social, ethical, and human issues

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

3. Technology productivity tools

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

4. Technology communications tools

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

5. Technology research tools

- *Students use technology to locate, evaluate, and collect information from a variety of sources.*
- *Students use technology tools to process data and report results.*
- *Students evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks.*

6. Technology problem-solving and decision-making tools

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

GRADES Pre-K - 2

Performance Indicators:

All students should have opportunities to demonstrate the following performances.

Note: the numbers in parentheses below correlate to the standard listed at the beginning of this section.

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, audiotapes, 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)*

GRADES 3 - 5

Performance Indicators:

All students should have opportunities to demonstrate the following performances.

Note: the numbers in parentheses below correlate to the standard listed at the beginning of this section.

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 the 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, remediate skill deficits, and facilitate learning throughout 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, communicate with others in support of direct and independent learning, and pursue personal interests. (4)*
7. *Use telecommunications and online resources (e.g., e-mail, online discussions, Web environments) to participate in collaborative problem-solving activities for the purpose of developing 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 which 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)*

GRADES 6 - 8

Performance Indicators:

All students should have opportunities to demonstrate the following performances.

Note: the numbers in parentheses below correlate to the standard listed at the beginning of this section.

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, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom. (4, 5, 6)*
7. *Collaborate with peers, experts, and others using telecommunications and collaborative tools to investigate curriculum-related problems, issues, and information, and to develop solutions or products for audiences inside and outside the classroom. (4, 5)*
8. *Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems. (5, 6)*

9. *Demonstrate an understanding of concepts underlying hardware, software, and connectivity, and of practical applications to learning and problem solving. (1, 6)*
10. *Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems. (2, 5, 6)*

GRADES 9 - 12

Performance Indicators:

All students should have opportunities to demonstrate the following performances.

Note: the numbers in parentheses below correlate to the standard listed at the beginning of this section.

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 for 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 online 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)*

APPENDIX C

NETS FOR TEACHERS

All classroom teachers should be prepared to meet the following standards and performance indicators.

I. TECHNOLOGY OPERATIONS AND CONCEPTS

Teachers demonstrate a sound understanding of technology operations and concepts.

Teachers:

- A. demonstrate introductory knowledge, skills, and understanding of concepts related to technology (as described in the ISTE National Educational Technology Standards for Students).
- B. demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies.

II. PLANNING AND DESIGNING LEARNING ENVIRONMENTS AND EXPERIENCES

Teachers plan and design effective learning environments and experiences supported by technology.

Teachers:

- A. design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.
- B. apply current research on teaching and learning with technology when planning learning environments and experiences.
- C. identify and locate technology resources and evaluate them for accuracy and suitability.
- D. plan for the management of technology resources within the context of learning activities.
- E. plan strategies to manage student learning in a technology-enhanced environment.

III. TEACHING, LEARNING, AND THE CURRICULUM

Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning.

Teachers:

- A. facilitate technology-enhanced experiences that address content standards and student technology standards.
- B. use technology to support learner-centered strategies that address the diverse needs of students.
- C. apply technology to develop students' higher-order skills and creativity.
- D. manage student learning activities in a technology-enhanced environment.

IV.ASSESSMENT AND EVALUATION

Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies.

Teachers:

- A. apply technology in assessing student learning of subject matter using a variety of assessment techniques.
- B. use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.
- C. apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.

V. PRODUCTIVITY AND PROFESSIONAL PRACTICE

Teachers use technology to enhance their productivity and professional practice.

Teachers:

- A. use technology resources to engage in ongoing professional development and lifelong learning.
- B. continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning.
- C. apply technology to increase productivity.
- D. use technology to communicate and collaborate with peers, parents, and the larger community in order to nurture student learning.

VI.SOCIAL, ETHICAL, LEGAL, AND HUMAN ISSUES

Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK–12 schools and apply that understanding in practice.

Teachers:

- A. model and teach legal and ethical practice related to technology use.
- B. apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities.
- C. identify and use technology resources that affirm diversity.
- D. promote safe and healthy use of technology resources.
- E. facilitate equitable access to technology resources for all students.

Special Addendum #1 to the Technology Plan of Fairview Area Schools

As an addition to our budget, we intend to supplement our school funding each year by applying to the Universal Service Fund. These services provide us with day to day essential operations.

We will request funding for the following services:

- Telecommunications: Local telephone services, long distance services, high speed access services (such as T-1, ISDN, and DID circuits), cellular services, and pager services.
- Internet Access: dedicated or direct internet access services, dial up internet access, and E-Mail services.

Through our consortiums, NMEC and NMECIG, we will also be applying to the Universal Service Fund for our Internet Services and ITV telecom services. In the past, we have used USF Funding to purchase items such as servers, and network components.