

Technology Plan for Whittemore-Prescott Area Schools

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School Code: 35040

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Intermediate School District: IRESA-REMC 6

Technology Plan for this district can be viewed at the following address:
<http://www.wpas.net/Techpages/techplan.pdf>

TECHNOLOGY PLAN SUMMARY SHEET

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Years covered by this plan: 2010-2013		

TABLE OF CONTENTS

Vision and Goals	1-2
School District Mission Statement.....	2
Description of District	4
Guiding Documents for Plan	5
Technology Planning Team.....	5
Needs Assessment	6
Current Situation	6-9
Future Infrastructure.....	10
Curriculum Integration	11
Collaboration	11
Professional Development	11-12
Supporting Resources.....	12
Funding Timetable.....	13-14
Coordination of Financial Resources.....	14
Evaluation of Technology Plan Implementation	14-15

WHITEMORE-PRESCOTT SCHOOLS

Vision and Goals

Vision

We believe that educational technology is a valuable tool, which can be used to improve the academic performance of all students. Technology is changing our world so rapidly that when new is old in a matter of months; it is easy to be alternately dazzled or overwhelmed by the capability and complexity of the tools that surround us. Nevertheless, as a rapid pace becomes the norm, it is even more important to take the time to reflect on our purpose.

We want our schools to become facilitators in the use of technology. By using such technology, students can grow at their own pace, to become more involved with their community, and to reach their fullest potential. Technology will be a tool that enables all students to achieve their highest academic performance.

Our aim is to discover how technology will be used to support actual learning tasks and performance-based outcomes, and to investigate ways of providing for delivery and connectivity of digital data, audio, cable and satellite television, and distributed video systems. The District wants to provide a learning environment in which the use of technology is just as natural to the students as the use of a pen or pencil is to most adults.

Goals

Therefore, we believe the goal of the Technology Plan is to ensure:

1. That every student has competency in basic technological skills.
2. That every student will become competent in the use of varied technologies to move beyond rote learning, toward analytical thinking, problem solving and project-based learning.
3. 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.
4. That sufficient technological resources and training are provided for students and staff to maximize their effectiveness and efficiency.

Student Performance Goals

- 1. Increase academic performance across the curriculum through technology.
- 2. Increase students’ technology proficiencies.

Staff Technology Development Goals

- 1. Increase educator’s effectiveness in using technology by providing professional development on integrating technology into teaching and learning, instructional management, professional development, and administration.

WHITTEMORE-PRESCOTT AREA SCHOOLS

SCHOOL DISTRICT MISSION STATEMENT

"The mission of the Whittemore-Prescott Area School Community is to produce citizens who can effectively communicate, gather and use information, and make responsible life decisions."

The Whittemore-Prescott School district encompasses three different counties. (Iosco, Arenac, and Ogemaw.) The four schools are located between the towns of Whittemore and Prescott. All of the district’s schools, High School, Middle School, Elementary and E. C. C., are located in the heart of Pinkerton’s, Michigan’s largest ranch. The ranch donated the land for each of these schools.

POPULATION BY COUNTY

According to 2007 U.S. Census Bureau Estimate

Arenac County	16,608
Iosco County	26,255
Ogemaw County	21,338

MEDIAN HOUSEHOLD INCOME BY COUNTY

According to 2007 U.S. Census Bureau

Arenac County	\$36,770
Iosco County	\$35,724
Ogemaw County	\$34,726

PERCENT OF CHILDREN BELOW POVERTY BY COUNTY

According to 2000 U.S. Census Bureau - 1997 Model-Based Estimate

Arenac County	17.3%
Iosco County	15.7%
Ogemaw County	16.2%

WHITTEMORE-PRESCOTT SCHOOLS

Whittemore-Prescott has three school buildings in their district. Our E.C.C. and Administration building houses Pre-Kindergarten and Kindergarten; Whittemore-Prescott Elementary/Middle School houses a Four-Year Old program and 1st through 4th grades wing while the Whittemore-Prescott Middle School wing houses 5th-8th grades and Whittemore-Prescott High School houses 9th through 12th grades. The High School was extensively renovated in 1998 and the Elementary/Middle School Building was built in 1998 to house expanded classroom space, additional computer labs, and new media centers. All classrooms in the district contain networked computers. The state recognizes excellence in education by accrediting schools. Currently all schools within Whittemore-Prescott are interim accredited. These schools are presently developing and/or implementing school improvement plans as required.

Information about instructional use of Technology in our district is shared through open houses, the school web site and newsletters. Parents of students are encouraged to become familiar with and supportive of their child’s use of technology in learning. The school will work with any local adult literacy programs interested in introducing their teachers and/or students to a similar program of integrated use of technology in teaching and learning.

Educational Facilities January 19, 2010

<u>Type</u>	<u>Schools</u>	<u>Number of Teachers</u>	<u>Enrollment</u>
Early Childhood Center (Kindergarten) 8970 Prescott Rd., Whittemore	1	7.5	157
Elementary (Four-Year Olds and 1-4) 8878 Prescott Rd., Whittemore	1	21	312
Junior High (5-8) 329 N. Washington St., Prescott	1	18	300
High School (9-12) 6001 Mills Rd., Whittemore	1	17.5	349

Iosco County Intermediate School District - (REMC 6) located in Tawas, provides educational services to assist students and employees in four local school districts, business/industry, government and other human service agencies in improving performance and increasing the efficiency and effectiveness of their program. The ISD offers administrative services, business services, career technical services, instructional services, and special services. Evaluation

The effectiveness of the Technology Plan and the use of technology to improve the academic performance of all students in our schools will be evaluated on an ongoing basis. The following are some of the tools and methods, which will be used to determine the program's effectiveness:

- Yearly formal survey/needs assessment of the staff in regards to their use of technology in the classroom. Ongoing informal evaluations done by the technology staff
- Number of students taking technology courses.
- Number of students obtaining jobs in the technology field.
- Number of staff members taking part in technology staff development.
- Number and type of Internet projects participated in.
- Monitoring of district web pages.

Guiding Documents for Plan

1. Michigan Department of Education Educational Technology Planning
<http://techplan.edzone.net/>
2. Milken Family Foundation – Education Technology
<http://www.mff.org/pubs/ME158.pdf>
3. Michigan Department of Education
<http://www.techplan.org/supresources.html>

District Technology Planning Team

Name	Position
Sharon Santorum	Technology Director
Sam Harrison	High School Teacher
Deb Schoenborn.....	High School Computer Teacher
Barb Janish.....	Career Advisor
Kim Revord.....	Computer Technician

NEEDS ASSESSMENT

Whittemore-Prescott is a rural school system with an economically disadvantaged population of approximately 1118. The district encompasses 180 square miles and the per capita income is estimated to be \$26,760 per household. Almost 25.4% of the children eighteen years or younger live in poverty with 87% of our students receiving free or reduced lunches. There are three small city libraries and no hospital.

Whittemore-Prescott students need more advanced technology to provide access to electronic information for research, collaboration, and the study of global issues. They need the power to discuss their ideas with people from around the world, to test new ideas and theories, and to help in determining the direction of their own learning.

STAFF TRAINING NEEDS

The staff at Whittemore-Prescott Schools are at varying levels of skill in the use of technology. WP offers training in beginning technology use, as well as in the integration of new technology and technology into the curriculum. Training for staff members is offered during conference periods, and after school. Training is done on an “as needed” basis and offered free of charge.

Past training topics have included *Introduction to Word Processing, Introduction to Spreadsheets, Introduction to Print Shop, Exploring the Internet, using Pegasus Mail, Sasi Student Accounting training, Multi-media training, Web Page Design, TTI Laptop Initiation, Digital Camera Usage, Smart Board and Projector training.*

Any student or staff member who wishes to use the network or Internet must first sign the Acceptable Use Policy adopted by Whittemore-Prescott School System.

The technology department routinely surveys staff members as to their needs in training. All training is accompanied by extensive handouts (also available after the workshop) as well as follow-up sessions and monitoring by the technology staff.

CURRENT SITUATION

Whittemore-Prescott is not a novice of technology and presently has many constructive technology programs in place. These programs include the following:

District-Wide

- Direct connection to the Internet via and OC3 line to BAISD and Saginaw State University.
- District web pages in place providing district information.
- Written policies in place on acceptable use of the Internet, World Wide Web content, network management and equipment.
- Technology staff development program in place for all staff and community members.
- One full-time Technology Coordinator and one full-time Computer Technician to provide in-house technology repair and maintenance.
- Accelerated Reading program and computerized testing and management components implemented in the Junior High and Elementary schools.
- Jostens Learning System in place for student placement and practice in curricular subjects.
- Networked SASIxp student accounting program to provide student information from each school.
- SDS7 program is utilized and networked for financial accounting in the district.
- At least 3 Smart Boards in each school.
- At least two networked, Internet capable machines in each classroom.

High School

- Direct connection to the Internet via an OC3 line.
- Fiber-backbone, Ethernet-to-the-desktop connected throughout the school connecting each computer to create labs for advanced technology classes, including desktop publishing, advanced word processing, and computerized accounting.
- Web page maintained by the Technology Director with high school information and projects.
- Networked online card catalog. Library Reference CDs, Internet access, and automated checkout in the library.
- Networked computers in all classrooms for large-group presentations, reference, Internet access, student accounting and demonstrations.
- Three Smart boards and projectors.
- Online Video Streaming in all curricular levels provided by United Streaming.
- Graphing calculators are provided to higher math students and are accessible to all secondary math students.
- Internet library connection on ten machines to research online publications.
- Two computer labs for large group learning activities.

Middle School

- Direct connection to the Internet via an OC3 line.
- Web page with middle-school information and projects.
- Ethernet-connected computers in labs for classes in computer literacy, multimedia and desktop publishing.
- Networked computers in all classrooms for large-group presentations, reference, Internet access, student accounting and demonstrations.
- Networked online card catalog. Library Reference CDs, Internet access, and automated checkout in the library.
- Four Smart boards and projectors.
- Automated library checkout.
- One fully networked computer lab for large group learning activities.

Elementary School

- Direct connection to the Internet via an OC3 line.
- One fully networked computer lab with a full-time Computer Technician to aid the staff in technology implementation and training . (Used by E.C.C. as well as Elementary.)
- Every kindergarten through grade four student is taught keyboarding, word processing desktop publishing, multimedia and Internet access.
- Networked online card catalog. Library Reference CDs, Internet access, and automated checkout in the library.
- Web page with elementary information and projects.
- At least, two networked computers in each classroom for large-group presentations, reference, Internet access, student accounting and demonstrations.
- Seven Smart boards and Six projectors.
- Two computer labs for large group learning activities.

E. C. C. School

- Direct connection to the Internet via an OC3 line.
- Access to Elementary Lab as stated above.
- At least, one networked computers in each classroom for large-group presentations, reference, Internet access, student accounting and demonstrations.

Telecommunication Services

Currently, all students and staff members in the school district have access to the Internet at school. (As cited above in the Statement of Existing Conditions.) LANs are in place on every campus, which provide communication within each school and to the outside world.

CURRENT INVENTORY

The latest inventory of current technology available for student use in the Whittemore-Prescott school district as of December 1, 2004, is given in the chart below. Only current, non-obsolete (Pentium III's or better; at least 32 MB RAM) student computers are listed. The list does not include our 35 administrative computers or four file servers

Campus	Number of Students	Total Computers	Student to Computer Ratio
High School	349	100	3.5:1
Junior High School	300	90	3.3:1
Elementary School	312	120	3.6:1
E.C.C. Building	57	10	5.7:1
GRAND TOTALS	1118	320	Average of 3:5 for District

INFRASTRUCTURE

External Connections

Whittemore-Prescott is presently exploring the following external connection possibilities:

1. Web-based student accounting software
2. Web-based financial accounting software
3. Web-based IEP software
4. Digital Communications

Internal Network

ALL SCHOOLS:

Replace all 3Com 10/100 hubs with Cisco gigabit switches.

Add additional fiber and Cat 5 cable as needed.

Replace computers as per five-year rotation plan.

Upgrade electrical systems to accommodate increased power demands of computers.

Additional Smart Boards, projectors, network printers and copiers, digital cameras etc. (All which can be networked.)

HIGH SCHOOL:

Purchase three document cameras and laptops for the science department.

2 Color Network Laser printer for Labs.

JUNIOR HIGH SCHOOL:

Color Network Laser printer for the Lab.

ELEMENTARY:

Color Network Laser printer for the Library.

E.C.C.:

Additional Student computers

CURRICULUM INTEGRATION

In order to better integrate the use of technology into the regular curriculum, technology staff members and district curriculum facilitators have worked on creating scope and sequences and curriculum guides for each grade level. Guides for grades K-12 have been completed and are available upon request. Workshops and numerous online courses, through Michigan Virtual University, (www.mivu.org) have been offered to staff members in how to integrate technology into all aspects of classroom learning. (*See Appendix i-xxii.*)

COLLABORATION

Whittemore-Prescott Schools has been successful in developing partnerships with other schools and coordinating various funding sources to implement their technology plan. Whittemore-Prescott Schools accesses the Internet through a free OC3 fiber connection as part of the Bay Arenac ISD in conjunction with Saginaw Valley State University. Whittemore-Prescott has applied for and received Career Prep, Title 1, Title IID, USF, TTI and other grants used to implement technology. Whittemore-Prescott receives audio and visual materials and software rental through the Bay Arenac ISD.

Whittemore-Prescott Schools will continue these collaborations. Additional emphasis will be placed on securing funding from additional sources such as the Universal Service Fund, other state and federal government granting organizations, and private for profit and non-profit corporations.

PROFESSIONAL DEVELOPMENT

Whittemore-Prescott Schools recognizes the need for ongoing professional development for its staff. In the past, training and professional development has taken place through the following:

1. Staff technology inservice during student released time.
2. Staff participation in workshops and conferences sponsored by other organizations and groups.
3. Staff participation in workshops sponsored by the Bay Arenac ISD and the Iosco Intermediate School District.
4. Individual staff training by the technology coordinator.
5. Small group staff training by the technology coordinator.
6. Informal peer training.

Whittemore-Prescott Schools will continue the above types of professional development activities. In addition, a professional development subcommittee will be formed which will explore new alternative ways of training and staff development. These may include:

1. Increased use of video and instructional materials from the Bay Arenac ISD.
2. Formalized self-paced individual training.
3. Increased use of peer instruction.
4. Increased time for all staff professional development.
5. Using online courses provided by the State of Michigan in collaboration with Michigan Virtual University.

TECHNICAL ASSISTANCE

Whittemore-Prescott Schools is committed to providing adequate and ongoing technical support. The district employs a full time Technology Coordinator who is responsible for maintaining, upgrading and installing new hardware and software as well as assisting staff members in dealing with technology related problems. She also provides individual and group training to staff. We also have a Technology Assistant for the Technology Coordinator. This person handles routine maintenance and repair and assists with several elementary classrooms.

At Whittemore-Prescott High School a full time media specialist offers first line assistance with various technology problems. Two staff members in the computing department also offer expertise and assistance.

Our Elementary and Jr. High schools have full time media specialists to offer first line assistance.

Whittemore-Prescott Schools regularly contract with outside suppliers for technical assistance that cannot be done in-house. This includes phone and electrical system work as well as computer applications and infrastructure. The District Technology Coordinator and Technology Assistant maintain and repair district computers.

Besides in-house technical support training, the technology coordinator and other staff regularly attend conferences, workshops, classes and other training to keep up-to-date.

SUPPORTING RESOURCES

Whittemore-Prescott is committed to sustaining and improving the use of technology to improve the academic performance of all students. Beyond the state technology allotment, the district has contributed local funds in the past for technology enhancements and will continue to do so in the future. The technology staff is also active in working to ensure that all technology equipment functions well and to seek additional funding sources for equipment and services.

FUNDING TIMETABLE AND RATIONALE FOR MAJOR NEW PURCHASES

2010-2011

Replace 50 computers in the Elementary labs.
Purchase three document cameras and laptops for High School.
Update school Word Processing Program. (Site License and upgrade fees.)
Purchase a Web-based program for grades which allows parent and student access.

2011-2012

Replace 50 computers in the Junior High. (Staff, Library and Lab)
Replace 10 computers in E.C.C. building. (Staff and student.)
Purchase 3 Color Laser Printers for district.
Purchase two document cameras and Laptops for Jr. High.

2012-2013

Replace 40 computers in the High School. (Lab, Library and Counselors Lab)
Replace 7 District secretaries' computers.
Purchase four document cameras and Laptops for Elementary School.
Purchase laser printer/copier for Elementary lab.

Summer 2013 - Technology plan completed. Create and start next technology plan.

Projected Cost 2010-2011

ITEM	LOCAL DISTRICT AND/OR GRANTS
Workstations	\$33,928.57
Telecommunications-Internet and Phone lines	50,000.00
Software	80,000.00
Media-Document Cameras/Laptops	11,750.00
Supplies	10,000.00
Staff	79,000.00
Staff Development	17,500.00

General Administration	8,350.00
Furniture	5,000.00
Laser Printers and copiers	0.00
Total	\$295,528.57

Projected Cost 2011-2012

ITEM	LOCAL DISTRICT AND/OR GRANTS
Workstations	\$33,928.57
Telecommunications-Internet and Phone lines	50,000.00
Software	22,500.00
Media-Document Cameras/Laptops	5,875.00
Supplies	10,000.00
Staff	80,000.00
Staff Development	8,750.00
General Administration	8,325.00
Furniture	5,000.00
Laser Printers and copiers	14,625.00
Total	\$239,003.57

Projected Cost 2012-2013

ITEM	LOCAL DISTRICT AND/OR GRANTS
Workstations	\$27,142.86
Telecommunications-Internet and Phone lines	50,000.00
Software	22,500.00
Media-Document Cameras/Laptops	5,875.00
Supplies	10,000.00
Staff	81,000.00
Staff Development	8,750.00
General Administration	8,325.00
Furniture	5,000.00
Laser Printers and copiers	4,875.00
Total	\$223,467.86

COORDINATION OF RESOURCES

Whittemore-Prescott Schools is pursuing a three-pronged strategy for the long term funding of technology. One strategy is the pursuit of U.S.F. Funds and technology literacy grants. We have been granted this money in the past for technology and will continue to pursue this option.

The second possibility is the pursuit of a millage proposal. A sinking fund millage would allow money to be raised for technology infrastructure and building maintenance.

Lastly, the school will make effective use of ongoing operational funds to support the objectives of this technology plan and money will be budgeted out of the general fund for some software and hardware purchases.

EVALUATION OF TECHNOLOGY PLAN IMPLEMENTATION

Evaluation of Teachers' Professional Development: A yearly survey will be presented to staff members to assess their level of comfort with the use of technology in the classroom. (*See Appendix pages xxv-xxvi.*) We will also evaluate the use of technology currently used within the curriculum. This way we will be able to determine and evaluate how well the curriculum has worked with the integration of technology components.

Evaluation of Students: Students will be evaluated on the number of students taking technology courses in High School and in College. Informal surveys will be taken by each technology teacher to determine the correlation between the "have" and "have nots." In other words, how well are the disadvantaged students doing with technology as compared to those who have the resources at home? We will also conduct studies to determine how many students obtain jobs in the technology field after they have left high school.

Evaluation of the Infrastructure: Other schools and businesses will be visited to make comparisons and to ascertain new trends in networking. As new technologies are acquired, professionals will be consulted to make sure they are compatible with existing technologies

Evaluation by the Technology Committee: We will hold meetings to determine the effectiveness of the technology plan. The results of these meetings will be used to refine the plan and make adjustments as necessary. The evaluation results will be communicated to staff, Board of Education, administration, students and community members. The "core" plan will be evaluated each year by the categories identified as required components and long-term adjustments and goals will be amended accordingly.

Appendix

Table of Contents

Introduction.....	i
Vision and Content Standards.....	i
Benchmarks.....	iii
Elementary Overview Grades K-6.....	iii
Elementary Grade Level Benchmarks.....	iv-viii
Elementary Integration Into all Content Areas.....	ix
Middle School Overview Grades 7 th - 8 th	x
Middle School Grade Level Benchmarks.....	xi-xii
Middle School Integration Into all Content Areas.....	xiii
High School Overview Grades 9 th - 12 th	xiv
High School Grade Level Benchmarks.....	xv-xx
High School Mathematics Spreadsheet Objective.....	xxi
High School Integration Into all Content Areas.....	xxii
Computer and Internet Use Policy.....	xxiii-xxiv
Technology Skills Survey.....	xxv-xxvi

Whittemore-Prescott Area Schools

TECHNOLOGY EDUCATION CORE CURRICULUM PLAN

Introduction

During the 1999-2000 school year, a committee of educators was formed to revamp the existing curriculum plan for technology education for grades K-12. The following is a revision of the plan developed during the 1994-1995 school year with consideration for the ever expanding field of technology and the requirements issued by the Michigan Department of Education.

VISION AND CONTENT STANDARDS

An academic or model core area statement should incorporate a curriculum and instructional program which, at a minimum, provides all students with a reasonable opportunity to achieve the knowledge and skills in the various content areas. Content standards and benchmarks should be provided as part which are a description of what students should achieve during their journey from kindergarten through high school.

Within the above context, the vision statement, profile of a technologically literate student, content standards and representative benchmarks for Whittemore-Prescott Areas Schools in the area of instructional technology are:

Technology is the systematic application of knowledge, materials, tools and skills to extend human capabilities. A technology curriculum integrates the complementary areas of technology education. Technology education is defined as the study of technology and its effects on individuals, society and civilization. Instructional 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 use technology for knowledge and skill acquisition, communication and information management, problem solving, creative expression, research, design, and product

development. Learners become technologically capable when they apply technology across curricular areas and when technology is used throughout the learning process.

A technologically literate learner:

- Explores, evaluates, and uses technology to accomplish, independently and cooperatively, real work 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;

A technologically literate student will;

- Use and transfer technological knowledge and skills for life roles (family member, citizen, worker, consumer);
- Use technologies to 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.

ELEMENTARY OVERVIEW GRADES K-6

BENCHMARKS

Benchmarks indicate what students should know and be able to do at various developmental levels (i.e. early elementary school, later elementary school, middle school and high school.) The benchmarks for instructional technology are:

This proposed curriculum sets criteria for Whittemore-Prescott Elementary school. Students will be introduced to the keyboard as early as kindergarten. Skills students will need to master at each elementary grade level have been identified.

Keyboarding is not the only skill this curriculum addresses for the elementary student. K-6 students will have experiences in word processing at all levels as well as the introduction of desktop publishing to students in grades 3-6. Whittemore-Prescott Elementary school will also incorporate technology into all areas of the curriculum. Students will take part in a project-oriented approach to technology. Projects will include book reviews, class newspapers, book publishing, research reports, introductory multimedia projects, and telecommunications with children in other schools via on-line resources.

Students in elementary school:

Will demonstrate knowledge in keyboarding, multi-media, word processing, desktop publishing, and online research through applications integrated into their subject matter classes.

ELEMENTARY KEYBOARDING BENCHMARKS

GRADE	CONTENT KNOWLEDGE		APPLICATION OF KNOWLEDGE EXAMPLES	STUDENT EXPECTATIONS	EXAMPLES OF TEACHING/ LEARNING TIME
K	Familiar with keyboard.	Exploration	Key recognition games and exercises.	Self-directed Learner. Effective Communicator.	All year Weekly practice
1	Left/right hand position (use of yarn on keyboard to give sense of hand positions.)	Introduction	Drill games and exercises from appropriate software.		All year Weekly practice
2	Home row hand position. Key/finger accuracy 5 words per minute with 50% accuracy.	Introduction	Creative word processing exercises. Specific language drills.		All year Weekly practice 10 - 15 minutes per session
3	10 words per minute with 80% accuracy. Minimum - cover all letter keys, shift, space bar and punctuation.	Practice	Speed building exercises. Content from reading and English.		All year 10-15 minutes per session 2 times per week
4	15 words per minute with 85% accuracy. Left/right hand position. Home row hand position. Correct key/finder.	Review	Content area application.		All year 10 - 15 minutes per session 2 times per week/6 weeks
5	20 words per minute with 90% accuracy.	Demonstrate	Content area application.		All year 10 - 15 minutes per session 2 times per week
6	25 words per minute with 90% accuracy.	Demonstrate	Content area application.		All year 10-15 minutes per session 2 times per week

ELEMENTARY WORD PROCESSING BENCHMARKS

GRADE	CONTENT KNOWLEDGE	APPLICATION OF KNOWLEDGE EXAMPLES	STUDENT EXPECTATIONS	EXAMPLES OF TEACHING/ LEARNING TIME
K	Familiar with picture menu. Compose, graphic, print.	Introduction	Create picture and label with letters. Sample in portfolio.	Effective communicator. Self-directed learner. Critical thinker. Creative producer. Process will occur year long as it is integrated into appropriate grade level curriculum using software specific programs.
1	Icon File menu: Open, save and print. Keys: Delete, return, arrow. Use mouse to insert cursor.	Introduction	Creative writing sample. Sample in portfolio.	
2	Review above. File, menus, quit. Font selection/size.	Introduction	Collection of original poems. Sample in portfolio.	
3	File menu: New, open, close, save as (title of document), print preview and print. Edit menu: Undo. Document menu: Spelling and thesaurus. Tab key.	Introduction	Use the computer to compose, edit and print a personal letter. Sample in portfolio.	
4	Review above. Access template. Edit menu: Cut, copy, paste, select all. Justification and style. Font type and size.	Introduction	Use the computer to compose, edit and publish a creative writing story. Sample in portfolio.	
5	Review above. Set margins and tabs. Create folders and classify own documents.	Mastery of introductory skills	Use the computer to compose, edit and publish a creative writing story. Sample in portfolio.	
6	Demonstrate the use of system commands or a computer program to control a technological system. Demonstrate skills such as entering, storing, editing, formatting and revising text. Demonstrate the use of tabs and columns within a report.	Mastery of advanced word processing	Creative writing (i.e. Fractured fairy tales, poetry and stories.) Spelling vocabulary exercises. Letter writing - correct format - business and personal. Essays - formatting (i.e. page setup, headers, footers.)	

ELEMENTARY DESKTOP PUBLISHING BENCHMARKS

GRADE	CONTENT KNOWLEDGE	APPLICATION OF KNOWLEDGE EXAMPLES	STUDENT EXPECTATIONS	EXAMPLES OF TEACHING/ LEARNING TIME
2	Type text, choose graphic, edit and print.	Exposure	Use simple programs combining text and graphics.	Effective Communicator. Critical thinker. Creative producer. Self-directed learner. Cooperative Contributor. Process will occur year long as it is integrated into appropriate grade level curriculum.
3	File menu: New, open, close, save as, print preview and print. Edit menu: Undo. Reference menu: Spelling and thesaurus. Picture menu: Add graphics. Text menu: Size.	Introduction	Individual book review using report form. Sample in portfolio.	
4	Access template (when necessary.) Text menu: Font, alignment and style. Optional - Border and color.	Introduction	Simple class newspaper. (Minimum of 2 entries per student.) Sample in portfolio.	
5	Review above. Set margins and tabs.	Demonstrate introductory skills	Individual project based on research topics, including electronic resources, from science, social studies or school theme. Sample in portfolio.	
6	Demonstrate the use of system commands or a computer program to control a technological system. Demonstrate skills such as entering, storing, editing, formatting and revising text and graphics.	Mastery of advanced desktop publishing	Individual project based on research topics, including electronic resources, from science, social studies or school theme. Sample in portfolio.	

ELEMENTARY ONLINE TELECOMMUNICATIONS BENCHMARKS

GRADE	CONTENT KNOWLEDGE		APPLICATION OF KNOWLEDGE EXAMPLES	STUDENT EXPECTATIONS	EXAMPLES OF TEACHING/ LEARNING TIME
4	Introduce on-line access through opening and closing Internet Explorer. Learn acceptable use of communication. Knowledge of individual software.	Exploration	Pen pal communication. Research.	Effective communicator. Responsible citizen. Self-directed learner.	Process will occur year long as it is integrated into appropriate grade level curriculum.
5	Review above.	Exploration	Pen pal communication. Research.	Cooperative contributor.	
6	Use basic search utilities.	Research and Integration.	Research specific topics with interdisciplinary units.		

ELEMENTARY MULTIMEDIA BENCHMARKS

GRADE	CONTENT KNOWLEDGE	APPLICATION OF KNOWLEDGE EXAMPLES	STUDENT EXPECTATIONS	EXAMPLES OF TEACHING/ LEARNING TIME
2	Create text, image and use existing sound for a multimedia presentation related to content area. (Examples: field trip, thematic units, class book, etc.)	Exploration	Research and integration with interdisciplinary units.	Effective communicator. Responsible citizen. Self-directed learner. Cooperative contributor. Process will occur year long as it is integrated into appropriate grade level curriculum using age appropriate presentation software.
3	Create text, image, and record sound.	Exploration	Research and integration with interdisciplinary units.	
4	Organize and arrange information for a multimedia presentation. Create and import images from a variety of sources. Create and use sound from a variety of sources. Knowledge of currently available software.	Implementation	Research and integration with interdisciplinary units.	
5	Review above.	Application	Research and integration with interdisciplinary units.	
6	Create a multimedia presentation using all the methods above.	Mastery of advanced multimedia	Research and integration with interdisciplinary units.	

ELEMENTARY INTEGRATION INTO ALL CONTENT AREAS

Below are brief descriptions of how technology can be appropriately applied in specific curricular areas

Language Arts	Mathematics	Social Studies	Science	World Languages
<p>Word processing, spell check, thesaurus and grammar checking software used in writing process.</p> <p>Database and telecommunications for research and communications.</p> <p>Organize, track, investigate and communicate progress in reading with databases and spreadsheets.</p> <p>Intervention, remediation, and reinforcement of language arts skills.</p> <p>Multimedia reports and productions with graphics, text and sound.</p> <p>Creation of timelines of events.</p> <p>Desktop publishing of documents, reports and other published materials.</p> <p>Video portfolios.</p>	<p>Database and spreadsheet software used in research.</p> <p>Intervention, remediation, and reinforcement of software for skill development.</p> <p>Simulation software used in problem solving.</p> <p>Logo programming for problem solving and simple geometry.</p> <p>Database and telecommunications for research and communications.</p> <p>Instructional resources on videotape, videodisc and instructional television.</p>	<p>Software and online resources for map skills.</p> <p>CD-ROM and online resources for research.</p> <p>Multimedia software and hardware used in student reports and productions.</p> <p>Instructional resources on videotape, videodisc and instruction television.</p> <p>Still video and digitizing peripherals used in student projects.</p> <p>Desktop publishing of student projects and reports.</p> <p>Individual and cooperative learning involving computer-based resources.</p>	<p>Database and telecommunications for research.</p> <p>Multimedia software and hardware use in student reports and productions.</p> <p>Computer-based laboratories for measurement/analysis.</p> <p>Optical technologies for research and analysis.</p> <p>Simulation software for problem solving.</p> <p>Instructional resources on videotape, videodisc and instructional television.</p> <p>Download and analyze data from weather satellite via Internet resources.</p> <p>Review of basic skills and concepts using computer-based resources.</p>	<p>World language word processors for writing.</p> <p>Vocabulary review via computer.</p> <p>Introduction to languages via digitized voice.</p> <p>Digitized audio for language development.</p> <p>Telecommunications and database resources for research.</p>
Arts	Music	Physical Education	Special Education	Media Centers
<p>Computer drawing programs for creative expression.</p> <p>Design compositions involving various computer-based resources.</p> <p>Multimedia production and portfolios.</p> <p>Use of still and live video in projects.</p> <p>Database and telecommunications for research.</p> <p>Animation software.</p> <p>Art history and appreciation involving sources on video and CD-ROM.</p>	<p>Database and telecommunications for research.</p> <p>Resources on audio compact disc.</p> <p>Use of MIDI interface for music composition and performance.</p> <p>Creative music expression using multimedia resources.</p>	<p>Research in health and physical education involving computer-based resources.</p> <p>Database and telecommunications for research.</p> <p>Instructional resources on videotape, videodisc and instructional television.</p>	<p>CAI software for remediation.</p> <p>Assistive peripherals and software for special needs.</p> <p>Word processing.</p> <p>Intervention, remediation, and reinforcement of skills development.</p> <p>Instructional resources on videotape, videodisc and instructional television.</p> <p>Multimedia production.</p> <p>Use of laptop computers.</p>	<p>Computerized card catalog.</p> <p>Databases on CD-ROM.</p> <p>Telecommunications, including satellite television and local and worldwide online resources for research.</p> <p>Multiple computer stations for teacher/student use.</p> <p>Multimedia workstations.</p> <p>Central location of electronic resources.</p>

MIDDLE SCHOOL OVERVIEW GRADES 7TH-8TH

The Middle School Curriculum will build on the skills learned at the elementary level. Students will enter the middle school having met the elementary outcome of being able to type twenty-five words per minute at 90% accuracy. The middle school will integrate typing throughout the curriculum to reinforce these skills. Students will further their knowledge by completing courses in word processing, multimedia and database and spreadsheets throughout their middle school experience.

Across the curriculum in all content areas, middle school teachers will integrate the technological skills that students have learned in their elementary years. Teachers will integrate word processing skills into their courses at the seventh and eighth grade levels. The seventh grade courses will integrate multimedia, across the curriculum, whenever possible, exposing students to the more advanced features of multimedia as a communication tool. The eighth grade courses, across the curriculum, will integrate database and spreadsheet applications wherever possible. Therefore, students will leave the middle school having improved their typing and multimedia skills, and having mastered word processing, database and spreadsheet applications. They will also have a greater understanding of the World Wide Web as a pre-existing database and a research tool.

In addition, in Middle School, students will:

1. Analyze the interrelationship among technologies.
2. Evaluate the advancements in technology.
3. Identify and explain the resources needed to operate selected technological systems.
4. Analyze how computers are tools for information processing, communication expressions, decision-making, problem solving and control of other devices.
5. Identify and manipulate components used in integrated technological systems (e.g., computers, videodiscs, CD-ROMs.)
6. Describe and apply available information technologies, their functions and capabilities.
7. Analyze and evaluate the advantages and disadvantages arising from the application of a technological solution to a problem.
8. Comprehend the copyright, patent, and Freedom of Information laws as they relate to the use of technology.
9. Describe and evaluate the impact of technology on the home, school, community, and workplace.
10. Synthesize how technology impacts information access, analysis, organization, and utilization.

MIDDLE SCHOOL COMPUTER BENCHMARKS

GRADE	CONTENT KNOWLEDGE	APPLICATION OF KNOWLEDGE EXAMPLES	STUDENT EXPECTATIONS	EXAMPLES OF TEACHING/ LEARNING TIME
7 Multimedia	<p>Multimedia used as a tool for organizing, arranging and storing information by creating buttons, fields, cards and stacks.</p> <p>Introduce technology media (computer, laser disc, telecommunications, still and live video, to effectively search, collect, process and store information.</p> <p>Apply technologies to interpret, analyze, synthesize and evaluate data information.</p> <p>Use information technologies as tools for creative expression and communication of ideas.</p> <p>Reinforce word processing skills by:</p> <ul style="list-style-type: none"> • Moving blocks of text •Deleting blocks of text 	<p>Integration units with academic core classes</p> <p>Family Tree Project</p> <p>Interdisciplinary Unit -</p> <p>Leadership Project</p> <p>Advanced newsletter</p>	<p>Self-directed learners</p> <p>Critical thinkers</p> <p>Creative producers</p>	<p>One semester every other day</p> <p>Required course</p> <p>Designed to introduce the more advanced features of multimedia and word processing</p>
8 Database and Spreadsheets	<p>Demonstrate the more advanced features of database computer applications in hands-on problem solving.</p> <p>Introduce spreadsheet/computer applications and use learning activities to answer “what if” questions by manipulating numeric data formulas.</p> <p>Use pre-existing databases to collect research.</p> <p>Reinforce advanced word processing skills.</p>	<p>Baseball card database</p> <p>Personal address book</p> <p>Sales and statistical spreadsheets</p> <p>Mail merge documents</p>		<p>All year</p> <p>Every other day</p> <p>Required course</p> <p>Designed to introduce spreadsheets and master databases</p>

Once items have been mastered, academic course requirements will promote their continued use.

MIDDLE SCHOOL ONLINE TELECOMMUNICATIONS BENCHMARKS

GRADE	CONTENT KNOWLEDGE	APPLICATION OF KNOWLEDGE EXAMPLES	STUDENT EXPECTATIONS	EXAMPLES OF TEACHING/ LEARNING TIME
8 Communi- cation Arts	<p>Research Strategies: To brainstorm possible topics and narrow the focus by asking questions which identify a “driving question.” To develop a search strategy using keywords which define the topic. To learn strategies for online searching which aid in the management and movement of data. To explain and use online resources that are appropriate for the learner and the topic. To organize and analyze information in order to draw conclusions and implications based on the online investigation. To utilize other print and non-print sources as necessary. To produce a product using online sources combined with other resources. To evaluate search results making a decision about accuracy of the data and reformulate the search if necessary.</p> <p>Online communications: To learn to evaluate a web site. To become familiar with Internet procedure. To practice electronic mail skills to communicate with the online community. To learn and to model, ethical, legal and responsible behavior in the online community.</p>	Career Research Mentorship Interdisciplinary Unit	Self-directed learners Critical thinkers Effective communicators Creative producers Involved citizens Cooperative producers	Year-long unit in eighth grade

Below are brief descriptions of how technology can be appropriately applied in specific curricular areas

MIDDLE SCHOOL INTEGRATION INTO ALL CONTENT AREAS

Language Arts	Mathematics	Social Studies	Science
<p>Word processing, spell check, thesaurus, and grammar checking software used in the writing process.</p> <p>Database and telecommunications for research.</p> <p>Outline/brainstorm software and CD-ROMs for writing.</p> <p>Multimedia projects with graphics, text and sound.</p> <p>Desktop publishing of newspaper.</p> <p>Desktop publishing of documents, reports and other published materials.</p>	<p>Spreadsheets to solve problems.</p> <p>Graphing calculators to discover concepts visually.</p> <p>Reinforce basic skills with computer software.</p> <p>Simulation software used in problem solving.</p> <p>Computer generated graphs.</p> <p>Instructional resources on videotape, videodisc and instructional television.</p>	<p>Telecommunications to use online resources.</p> <p>Multimedia projects with graphics, text and sound.</p> <p>Databases on compact disk.</p> <p>Simulations.</p> <p>Spreadsheets to graph statistics.</p> <p>Still video and digitizing peripherals used in student projects.</p> <p>Desktop publishing of travel brochures and reports.</p>	<p>Database and telecommunications for research.</p> <p>Multimedia reports with graphics, text and sound.</p> <p>Download and analyze data from NASA and other related Internet sites.</p> <p>Nationwide collaboration via telecommunications.</p> <p>Optical technologies for research and analysis.</p> <p>Simulation software for problem solving.</p> <p>Instructional resources on videotape, videodisc and instructional television.</p>
Arts	Music	Physical Education	Life Management
<p>Computer drawing programs for creative expression.</p> <p>Design compositions.</p> <p>Multimedia production using still and live video.</p> <p>Critique art work.</p> <p>Art history and appreciation involving sources on video and CD-ROM.</p> <p>Animation.</p> <p>Database and telecommunications for research.</p>	<p>Database and telecommunications for research.</p> <p>Compact disks on musical classics with analysis and history of writing.</p> <p>Create music.</p> <p>Develop music library.</p>	<p>Caloric analysis for physical fitness.</p> <p>Database for tracking of sports statistics.</p> <p>Computer interfaces to measure pulse in training.</p> <p>Database and telecommunications for research.</p>	<p>Database and telecommunications for research.</p> <p>Spreadsheets to graph and analyze nutrients in different food groups.</p> <p>Career exploration.</p>

World Languages	Special Education	Technology Education	Media Centers
World language word processors for writing. Vocabulary review via computer. Introduction to languages via digitized voice. Compact disks with digitized speech. Telecommunications for research.	Computer software for remediation. Technology as tool to accomplish required objectives. Skill development and reinforcement. Use of laptop computers.	Principles of technology. Computer Aided Design (CAD). Computerized diagnostic devices. Multimedia reports with graphics, text and sound. Spreadsheet to graph and analyze data. Computer Aided Instruction (CAI) software for extension activities.	Computerized card catalog. Multiple databases on compact/video disk. Telecommunications lab for research and Internet instruction. Multiple computer stations for teacher/student use. Multimedia work stations.

HIGH SCHOOL OVERVIEW GRADES 9-12

Our goal is to incorporate technology into all areas of curriculum. Word processing, database manipulation, spreadsheet applications and basic programming will be integrated into student required courses. The use of on-line resources will be integrated into curricular areas for the exchange of ideas. Student elective courses will provide additional technological skills, including CAD/CAM, advanced programming, computerized accounting, and multimedia information.

The High School integrated technology curriculum may involve the following components:

1. Technology integration into all content areas.
2. Advanced knowledge in word processing, research, and multimedia through the study of language arts.
3. Programming and spreadsheet applications through the study of mathematics.
4. Spreadsheet and database applications through the study of science.
5. Telecommunications through the study of social studies.

Students will:

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| <ol style="list-style-type: none"> 1. Produce word-processed documents. 2. Manipulate databases. 3. Understand and use on-line resources. 4. Publish documents on-line. 5. Discuss, and model ethical, legal, and responsible uses of technology. | <ol style="list-style-type: none"> 6. Use spreadsheet applications. 7. Create multimedia projects. 8. Produce computer programs 9. Manipulate spreadsheets. 10. Use content-specific software. |
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HIGH SCHOOL LANGUAGE ARTS WORD PROCESSING BENCHMARKS

Reinforcement and application of previously introduced skills.

GRADE	CONTENT KNOWLEDGE	APPLICATION OF KNOWLEDGE EXAMPLES	STUDENT EXPECTATIONS	EXAMPLES OF TEACHING/ LEARNING TIME
9-10	<p>Well-written, visually pleasing documents using basic word processing skills. Reports created on a computer with title page, outline, text, works cited parenthetical referencing:</p> <ul style="list-style-type: none"> • indenting • use of a variety of sizes and fonts • centering, setting margins • spell check • thesaurus • tabs, tab stops • pagination • spacing 	<p>Essays</p> <p>Themes</p> <p>Research reports</p> <p>Letters</p> <p>Timelines</p>	<p>Self-directed learner</p> <p>Effective communicator</p> <p>Creative producer</p>	<p>Five hours in the first semester to outline expectations.</p>
11-12	<p>Well-written, visually pleasing documents using basic word processing skills. Reports created on a computer with title page, outline, text, works cited parenthetical referencing.</p>	<p>Theme writing</p> <p>Essays</p> <p>Peer editing</p> <p>Research reports</p>		<p>Five hours in the first semester to outline expectations.</p>

HIGH SCHOOL MULTIMEDIA BENCHMARKS

GRADE	CONTENT KNOWLEDGE	APPLICATION OF KNOWLEDGE EXAMPLES	STUDENT EXPECTATIONS	EXAMPLES OF TEACHING/ LEARNING TIME
<p style="text-align: center;">9-12</p> <p>Required Presentations</p>	<p>To compose, communicate, illustrate and illuminate their ideas.</p> <p>To research, interpret and communicate concepts and ideas.</p> <p>To compose meaningful images, video and sound.</p> <p>To demonstrate an understanding of various techniques used to create a multimedia presentation.</p>	<p>Possible integration (multimedia forms)</p> <p>Creative expression</p> <p>Multiple viewpoints</p>	<p>Self-directed learner</p> <p>Critical thinker</p> <p>Effective communicator</p> <p>Creative producer</p> <p>Cooperative contributor</p>	<p>Five hours required.</p>

HIGH SCHOOL PROGRAMMING BENCHMARKS

Students will learn beginning programming language in all mathematics courses. All students with interest in fields of mathematics, engineering, or computer system uses will be encouraged to take advanced programming classes.

COURSE	CONTENT KNOWLEDGE		APPLICATION OF KNOWLEDGE EXAMPLES	STUDENT EXPECTATI ONS	EXAMPLES OF TEACHING/ LEARNING TIME
VISUAL BASIC OR OTHER PROGRAM- MING LANGUAGE	Master the use of nested loops and counting techniques. Master the REM and GOTO statements.	Enter programs into the computer and use mathematics taught in Algebra to analyze the program.	Examine: order of operations, probability and relative frequency, intersection and union, volumes and areas of two dimensional objects, currency exchange rates, square roots and products, compound interest, weighted averages, and the quadratic formula.	Self-directed learner Critical thinker	One hour, five days each marking period. Required.
	Master the use of the IF-THEN statement to make decisions about which procedures to follow.	Enter programs into the computer and use mathematics taught in Geometry to analyze the program.	Examine the surface area and volume of boxes, cones, pyramids and spheres. Study right triangle lengths. Find the ratio of the legs of right triangles.	Effective communicator Creative producer	One hour, five days each marking period. Required.
	Master the use of the DIM command	Enter programs into the computer and use mathematics taught in Advanced Algebra to analyze the program. Modify programs to achieve desired changes in the program's output. Write similar programs to solve mathematical problems.	Examine sequences both explicitly and recursively.	Cooperative contributor	One hour, five days each marking period. Required.
	Master the FOR-NEXT loop with advanced equations. Master the RND(1) function.	Analyze programs in terms of its mathematics. Design, write and run similar programs to solve mathematical problems.	Use tables of values to study the quadratic function. Study properties of composition of functions, exponential functions and trigonometric functions. Generate the elements of large sample spaces. Explore the random number generator. Evaluate geometric series and binomial probability distributions.		One hour, five days each marking period. Required.

	Master PRINT options to produce output in well organized charts.	Design, write and run programs to solve mathematical problems. Analyze when programming is an efficient way of problem solving.	Approximate the area under curves using Riemann sums with subintervals of equal width. Write a computer program, which inputs two, vectors and calculates their correlation coefficient. Write program to simulate the results of manufacturing problems using the binomial theorem. Evaluate dynamical systems.		One hour, five days each marking period. Required.
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HIGH SCHOOL SOCIAL STUDIES RESEARCH AND ONLINE TELECOMMUNICATIONS BENCHMARKS

Reinforcement and application of previously introduced skills.

COURSE	CONTENT KNOWLEDGE	APPLICATION OF KNOWLEDGE EXAMPLES	STUDENT EXPECTATIONS	EXAMPLES OF TEACHING/ LEARNING TIME
9 - 10	Search for information online. Publish documents online. Establish online conferences with remote sites. Demonstrate legal, ethical and responsible behaviors online. Use electronic mail. Demonstrate the ability to access and filter information resources.	<ul style="list-style-type: none"> • Use of online resources to research. • Publish research documents to a server. • Submit homework through e-mail. 	Critical thinker Effective communicator Cooperative contributor Creative producer Self-directed learner Involved citizen	Five hours each semester required.

HIGH SCHOOL SCIENCE SPREADSHEET BENCHMARKS

COURSE	CONTENT KNOWLEDGE	APPLICATION OF KNOWLEDGE EXAMPLES	STUDENT EXPECTATIONS	EXAMPLES OF TEACHING/ LEARNING TIME
PHYSICAL SCIENCE AND CHEMISTRY	Learn to place actual lab data on a compatible spreadsheet, and use charting and presentation features to produce a presentation level document.	Laboratory assessments move from pencil and paper graphs to presentation printouts.	Critical thinker Effective communicator Creative producer	One hour, ten days in the first marking period to learn skills. After introduction, use skills to produce lab presentations during the remainder of the year.
PHYSICS AND ANATOMY	Use of advanced graphing to produce graphical regressions.	Laboratory assessments advance to the higher level of statistical regression and curve fitting.		One hour, ten days in the first marking period to learn higher level spreadsheet skills. After introduction, use advanced skills to produce lab presentations during the remainder of the year.

HIGH SCHOOL SCIENCE DATABASE BENCHMARKS

COURSE	CONTENT KNOWLEDGE	APPLICATION OF KNOWLEDGE EXAMPLES	STUDENT EXPECTATIONS	EXAMPLES OF TEACHING/ LEARNING TIME
GENERAL SCIENCE	Learn to navigate a university-based bulletin board to gain access to current data and information. Contribute to high school level data gathering services and extract compiled results.	Use of the Internet database to obtain research paper information. Use of on-line database to contribute to research compilation.	Critical thinker Involved citizen Cooperative contributor	Nine hours in the first semester of the year to teach the use of the database research.
BIOLOGY	Learn to navigate a university-based bulletin board to gain access to current data and information. Contribute to high school level data gathering services and extract compiled results.	Use of the Internet database to obtain research paper information. Use of an on-line database to contribute to research compilation.		Nine hours in the first semester of the year to teach the use of the database research.

HIGH SCHOOL MATHEMATICS SPREADSHEET OBJECTIVE

COURSE	CONTENT KNOWLEDGE	APPLICATION OF KNOWLEDGE EXAMPLES	STUDENT EXPECTATIONS	EXAMPLES OF TEACHING/ LEARNING TIME
ALGEBRA	Demonstrate formatting of cells and editing and clearing of cells. Use formulas to perform calculations.	Calculate the sum and average of data. Evaluate multiplication and addition of fractions. Explore variable equations for the length, width and area of rectangular regions.	Self-directed learner Critical thinker Effective communicator Creative producer Cooperative contributor	One hour, five days each marking period required.
GEOMETRY	Demonstrate formula writing with multiple cells. Display answers in a variety of ways. Demonstrate the CUT, COPY and PASTE functions.	Evaluate the measure of the angles of triangles, trapezoids, parallelograms, kites and rectangles. Given sides of angles, be able to calculate additional information about the polygon.		One hour, five days each marking period required.
ADVANCED ALGEBRA	Demonstrate the PMT function to calculate the periodic payments for an installment loan when given the interest rate, number of payments to be made and the amount of the loan. Format cells for dollar amounts.	Study compound interest and amortization techniques. Evaluate effects of time and interest on total expenses of purchased items.		One hour, five days each marking period required.
FUNCTIONS, STATISTICS AND TRIG	Demonstrate graphing functions for the spreadsheet.	Produce and print charts while studying the mean and standard deviation of data. Analyze data with the line of best fit. Use binomial probability distributions to create histograms of data.		One hour, five days each marking period required.
PRECAL-CULUS, DISCRETE MATH	Demonstrate the VLOOKUP function.	Compute average rates of change in functions. Use derivatives to identify properties of functions. Use tables of values to look up comparison information on functions.		One hour, five days each marking period required.

HIGH SCHOOL INTEGRATION INTO ALL CONTENT AREAS

Below are brief descriptions of how technology can be appropriately applied in specific curricular areas.

LANGUAGE ARTS	MATHEMATICS	SOCIAL STUDIES	SCIENCE
<p>Word processing, spell check, thesaurus, and grammar checking software used in the writing process.</p> <p>Database and telecommunications for research.</p> <p>Outline/brainstorm software for writing.</p> <p>Multimedia projects with graphics, text and sound.</p> <p>Creation of timelines of events.</p> <p>Desktop publishing of newspaper and yearbook on computer.</p> <p>Enhance photographs.</p> <p>Video productions in Television Production class.</p>	<p>Spreadsheets to solve problems.</p> <p>Graphing programs to discover concepts visually.</p> <p>Reinforce basic skills with Computer software.</p> <p>Probability simulations.</p> <p>Special "word processors" with math symbols.</p> <p>Statistics software.</p>	<p>Atlas/map making.</p> <p>Telecommunications to use online resources.</p> <p>Multimedia projects with graphics, text and sound.</p> <p>Databases on compact disk.</p> <p>Simulations.</p>	<p>Database and telecommunications for research.</p> <p>Multimedia projects with graphics, text and sound.</p> <p>Computer probes for measurement/analysis.</p> <p>Optical technologies for research and analysis.</p> <p>Computer interface with lab instruments.</p> <p>Gravity, projectile motion and other simulation.</p> <p>Download and analyze data from weather satellite.</p> <p>Troubleshooting to solve problems.</p> <p>Nationwide collaboration via telecommunications.</p>
ARTS	MUSIC	PHYSICAL EDUCATION	BUSINESS EDUCATION
<p>Computer drawing with geometrical shapes or freehand.</p> <p>Design compositions.</p> <p>Critique art work.</p> <p>Scanning images and enhancing on computer.</p> <p>Animation.</p> <p>Enhance photography.</p> <p>Create multimedia portfolios.</p> <p>Database and telecommunications research.</p>	<p>Database and telecommunications for research.</p> <p>Compact disks of musical classics with analysis and history of writing.</p> <p>Create music.</p> <p>MIDI interface to control music synthesizer.</p> <p>Develop music library.</p> <p>Software to help plan marching band formations/transitions.</p> <p>Digitize/analyze voices.</p>	<p>Body fat analysis for physical fitness.</p> <p>Database for tracking of sports statistics.</p> <p>Computer interfaces to measure pulse in training.</p> <p>Automated timers.</p> <p>Database and telecommunications for research.</p>	<p>Computerized record keeping and accounting.</p> <p>Advanced word processing/publishing.</p> <p>Advanced database and spreadsheet applications.</p> <p>Payroll, inventory management and other business simulations.</p> <p>Optical technologies for research and simulations.</p>
FOREIGN LANGUAGE	SPECIAL EDUCATION	TECHNOLOGY EDUCATION	MEDIA CENTERS
<p>Foreign language word processors for writing.</p> <p>Vocabulary review via computer.</p> <p>Introduction to languages via digitized voice.</p> <p>Compact disks with digitized speech.</p> <p>Telecommunications for research.</p>	<p>Computer software for remediation.</p> <p>Use technology as tool to accomplish required objectives.</p>	<p>Principles of technology.</p> <p>Robotics.</p> <p>Computer Aided Drafting/Computer Aided Machining (CAD/CAM.)</p> <p>Computerized diagnostic devices.</p> <p>Career exploration software.</p> <p>Monitoring and feedback devices.</p> <p>Multimedia reports with graphics, text and sound.</p>	<p>Computerized card catalog.</p> <p>Multiple databases on compact/video disk.</p> <p>Telecommunications for research.</p> <p>Multiple computer stations for teacher/student use.</p> <p>Multimedia workstations.</p>

Whittemore-Prescott Area Schools

Computer and Internet Use Policy for Staff

Please read the following carefully before signing this document. This is a legally binding document. Intranet and Internet access is now available to staff in the Whittemore-Prescott Schools. We are very pleased to bring this access to WP and believe the Internet offers vast, diverse and unique resources. Our goal in providing this service to staff is to promote educational excellence by facilitating resource sharing, innovation and communication. The Internet is an electronic highway connecting thousands of computers all over the world and millions of individual subscribers. All staff members now have access to:

- Electronic mail communication with people all over the world.
- Information and news.
- Public domain and shareware of all types.
- Discussion groups on a plethora of topics ranging from diverse cultures to the environment to music to politics.
- Access to many university catalogs.

With access to computers and people all over the world also comes the availability of material that may not be considered to be of educational value in the context of the school setting. WP has taken precautions to restrict access to controversial materials. However, on a global network it is impossible to control all materials and an industrious user may discover controversial information. We firmly believe that the valuable information and interaction available on this worldwide network far outweighs the possibility that users may procure material that is not consistent with our educational goals.

Internet access is coordinated through a complex association of government agencies, and regional and state networks. In addition, the smooth operation of the network relies upon the proper conduct of the end users who must adhere to strict guidelines. These guidelines are provided here so that you are aware of the responsibilities you are about to acquire. In general this requires efficient, ethical and legal utilization of the network resources. If a WP user violates any of these provisions, his or her access will be terminated and future access could possibly be denied. The signature at the end of this document is legally binding and indicates the party who signed has read the terms and conditions carefully and understands their significance.

Internet - Terms and Conditions

Acceptable Use - The purpose of Bay Arenac ISD network, which is the backbone network to the Internet, is to support research and education in and among academic institutions in the U.S. by providing access to unique resources and the opportunity for collaborative work. School use must be in support of education and research and consistent with educational objectives. Use of other organization's network or computing resources must comply with the rules appropriate for that network. Transmission of any material in violation of any U.S. or state regulation is prohibited. This includes, but is not limited to, copyrighted material, threatening or obscene material or material protected by trade secret. Use for political lobbying is also prohibited.

Privileges - The use of Internet and the Whittemore-Prescott computer network is a privilege, not a right, and inappropriate use will result in a cancellation of those privileges. The system administrators, teachers, and school board will deem what is inappropriate use and their decision is final. The district may deny, revoke, or suspend specific user access.

Netiquette (Network and Internet Manners) - You are expected to abide by the generally accepted rules of network etiquette. These include, but are not limited to the following:

Be polite. Your messages should not be abusive to others.

Use appropriate language. Do not swear, use vulgarities or any other inappropriate language.

Do not reveal your personal address or phone numbers of students or colleagues.

Illegal activities are strictly forbidden.

Note that electronic mail (e-mail) is not guaranteed to be private. People who operate the system do have access to all mail. Messages relating to or in support of illegal activities may be reported to the authorities.

Do not use the network in such a way that you would disrupt the use of the network by other users.

All communications and information accessible via the network should be assumed to be private property.

BAISD makes no warranties of any kind, whether expressed or implied, for the service it is providing. BAISD will not be responsible for any damages suffered. This includes loss of data resulting from delays, nondeliveries, misdeliveries, or service interruptions caused by negligence, error or omissions. Use of any information obtained via the BAISD.net is at the users own risk. BAISD is not responsible for the accuracy or quality of information obtained.

Security - Security on any computer system is a high priority, especially when the system involves many users. If you feel you can identify a security problem on Internet or Network, you must notify a staff member who will in turn notify a system administrator. Do not demonstrate any problems to other users. Do not use another individual's account without written permission from that individual. Any attempts to login to Internet or Network, as a system administrator will result in cancellation of user privileges. Any user identified as a security risk or having a history of problems with other computer systems may be denied access to Internet and/or the WP computer Intranet.

Vandalism - Vandalism will result in cancellation of privileges and other sanctions. Vandalism is defined as any malicious attempt to harm or destroy hardware, data of another user, Internet, Intranet, or any agencies or other networks that are connected to the BAISD Internet backbone. This includes, but is not limited to, the uploading or creation of computer viruses.

Exception of Terms and Conditions - All terms and conditions as stated in this document are applicable to the Whittemore-Prescott Schools. These terms and conditions reflect the entire agreement of the parties and supersedes all prior oral or written agreements and understandings of the parties. These terms and conditions shall be governed and interpreted in accordance with the laws of the State of Michigan, and the United States of America.

I understand and will abide by the above Terms and Conditions for Internet access and Network usage. I further understand that any violation of the regulations above is unethical and may constitute a criminal offense. Should I commit any violation, my access privileges may be revoked, school disciplinary and/or appropriate legal action may be taken.

User signature: _____ Date: _____

Technology Skills Survey

Please do not take this survey unless you were asked to by special invitation.

Enter your name: _____

Enter your school: _____

Enter your position: _____

Instructions: Check in a box to mark a YES answer, leave empty for a NO answer.

COMPUTER OPERATING SYSTEMS

Do you have the skills and knowledge to:

- Log on and off a Novell Network?
- Change the computer date and time?
- Use the calculator on a computer?
- Determine the amount of space on your hard drive?
- Determine the amount of memory (RAM) on your computer?
- Open and close application programs on your computer?
- Adjust the volume control for sound?
- Save your work to the hard drive?
- Save your work to a floppy disk?
- Save your work to a ZIP drive?
- Save your work to a recordable CD or DVD?
- Save your work to the network server?
- Format a floppy disk?
- Create a new folder?
- Open existing saved files?
- Select a printer:
- Move, copy, and delete files?
- Use the help menu?
- Get out of a locked up computer and reset the application?

CD-ROM

Do you have the skills and knowledge to:

- Load and unload a CD from the CD-ROM drive?
- Search the CD for files and relevant files?
- Access programs from the CD?

THE INTERNET

Do you have the skills and knowledge to:

- Select a browser?
- Enter a URL?
- Add a location to the Bookmarks or favorite file?
- Know what to do when the “File not found” message appears?
- Change the default location URL to the www.wpas.net website?
- Print a page from the Internet?
- Save a file or folder or location of your choice?
- Search the Internet for specific information?
- Download files and applications:

E-MAIL

Do you have the skills and knowledge to:

- Compose an e-mail message and send it?
- Receive an e-mail message?
- Print an e-mail message?
- Forward replies to other people?
- Set up groups to automatically forward messages to?
- Send an e-mail message to multiple recipients at once?
- Delete messages?
- Attach a file to your e-mail?
- Open an attached file?
- Know what to do if an attached file does not open?
- Send a compressed (zipped) file?
- Open a compressed (zipped) file?
- Add e-mail addresses to your address book?

WORD PROCESSING

Do you have the skills and knowledge to:

- Create a document to meet your classroom needs?
- Import graphics or clip art into a document?
- Create an outline with bullets and numbering?
- Change line spacing and margins?
- Select and change fonts and sizes?
- Set up and change your page layout?
- Cut, copy, past, and delete text?
- Add/edit headers and footers?
- Use spell and grammar checking?
- Find an existing document?
- Change your default "Save As" location?
- Make columns?
- Use templates?
- Insert a table?

- Insert a page border?

SPREADSHEETS/CALCULATING/GRAPHS

Do you have the skills and knowledge to:

- Create a basic spreadsheet?
- Create a graph from a spreadsheet?
- Use formulas?
- Copy formulas?

DATABASE

Do you have the skills and knowledge to:

- Create a form for entering information?
- Create a table for entering information?
- Sort data?
- Create a report?
- Create a multiple sort?
- Set up contacts/address database?
- Make mailing labels from a contacts/address list?
- Create a query?

DESKTOP PUBLISHING

Do you have the skills and knowledge to:

- Insert/place a text field?
- Insert/place a picture, clip art or object?
- Move and resize objects?
- Create a flyer?
- Create a newsletter?
- Create a card?
- Create a banner?
- Create a brochure?