

# **Estacada School District Educational Technology Plan**

**2006 –2009**

Estacada School District  
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## ***Executive Summary***

In November 2005, the district's Technology Committee began revising the 2001 – 2004 technology plan. The recommendations contained in this report reflect the consensus of the Committee.

The following summarizes our principal recommendations:

1. Increase staff development regarding the understanding and application of technology, especially within the classroom environment. This recommendation applies to licensed staff and to those administrative and classified staff members who must utilize technology in their day-to-day operations in order to increase efficiency within the workplace.
2. Form a committee to create a continuum (Kindergarten through the twelfth grade) of educational software titles that will address the following areas: Reading, Mathematics, Writing, Keyboarding Skills, and Critical Thinking & Problem Solving.
3. In order to allow our students increased access to up-to-date technology, the ratio of computers-to-students throughout the district should reach a level of approximately 1:5.
4. Add hardware to meet the continuing requirement for testing. This will allow the use of computing in other areas for curricular related activities.
5. Add an additional technician to assist the technology department to adequately and effectively respond to the needs of staff.

The reliability infrastructure has been inconsistent at best. Tools and software have been provided to students and staff, however, training and support has not been as effective as it needs to be. The benefits of implementing this plan to the students and staff of the district are:

- The development and implementation of a solid technical infrastructure
- Additional access to technical tools
- Additional access to software and resources
- The development an effective professional development program.

## ***Technology Committee***

### **Parents/Citizens**

David A. Bugni      Parent

### **Administrators**

Dr. Howard Fetz      Associate Superintendent for Curriculum & Special Services Director  
Gene Smith      Director of Instructional Technology

### **Licensed Staff**

Herb Burchstead      Eagle Creek Elementary School  
Dante Torgersen      Estacada Junior High School  
Kevin Kirchhofer      Estacada High School  
Kari Hulsey      Rivermill Elementary School  
Sam Fisher      Clackamas River Elementary School

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## ***Education Technology Vision Statement***

Technology is the catalyst that will continue to transform schools from what they were, into what they must become to meet our students' needs as they grow into productive adults in the 21st century.

Our students will have the skills and knowledge necessary to make appropriate use of technology during their education, as members of the workforce, and as participating citizens in a global society.

Our teachers will embrace technology to enhance their teaching and their students' learning. Technology will allow information, combined with human intelligence, to impact the power of knowledge to our students.

## ***Instructional Technology Parameters***

Students, in continuing their education and career, will use the computer as a tool to locate and manipulate information. Curriculum must give additional emphasis to procedural knowledge over factual knowledge.

Teachers will integrate technology as an instructional tool in existing programs for teaching basic skills.

Educational leaders will promote a commitment by teachers for technology's role in both their students' learning and in their own professional development.

## ***Technology Goals for Students***

The student will become an "**information architect**" who uses the technology resources available to bring personal meaning and expression to knowledge.

All students will use technology as easily as they use pencil and paper. By graduation, students will be able to:

- Access information from a variety of sources
- Manipulate data to problem-solve, create, and communicate
- Synthesize concepts and creatively express ideas to others using video, text, and audio media
- Evaluate the relevance of technology for a particular need

Estacada School District students will use technology and telecommunications as a means to assist them in attaining the State of Oregon Learning Goals.

By the end of sixth grade, students will be able to use technology fluently and transparently across all areas of the curriculum to accomplish goals related to learning and research. All students should be able to use technology to explore new areas of knowledge and to self direct a significant portion of their learning.

K-12 students will be assessed in all areas of the ESD Curriculum Frameworks for Educational Technology.

Based on the National Education Technology Standards for Students, Estacada students will develop age appropriate skills in all six areas.

## **National Educational Technology Standards (NETS)**

### **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, preparing publications, and producing 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 to specific tasks.

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

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

## ***Seven Essential Learnings for Technology***

Effective use of technology will require students to develop new roles in learning, living, and working. The following essential learnings for technology should be woven into curriculum development as teachers plan instruction.

- 1. The student as information navigator.**  
The student recognizes and values the breadth of information sources, browses those sources, differentiates and selectively chooses sources, and retrieves appropriate information/data using all forms of media technology and telecommunications.
- 2. The student as critical thinker and analyzer using technology.**  
The student reviews data from a variety of sources, analyzing, synthesizing, and evaluating data to transform it into useful information and knowledge to solve problems.
- 3. The student as creator of knowledge using technology, media, and telecommunications.** The student constructs new meaning and knowledge by combining and synthesizing different types of information through technology, telecommunications, and computer modeling/simulations.
- 4. The student as effective communicator through a variety of appropriate technologies/media.**  
The student creates, produces and presents ideas, stories and unique representations of thoughts through a variety of media by analyzing the task before him/her, the technologies available, and appropriately selecting and using the most effective tool(s) media for the purpose and audience.
- 5. The student as a discriminating selector of appropriate technology for specific purposes.**  
The student discriminates among a variety of technologies and media to extend and expand his/her capabilities.
- 6. The student as technician.**  
The student develops sufficient technical skills to successfully install, setup, and use the technology and telecommunication tools in his/her daily life, work situations, and learning environments.
- 7. The student as a responsible citizen, worker, learner, community member, and family member in a technological age.**  
The student understands the ethical, cultural, environmental, and societal implications of technology and telecommunications; and develops a sense of stewardship and individual responsibility regarding his/her use of technology, media and telecommunications networks, respecting historical context and enhancing cultural lineage with integrity and concern for truth.

## ***Technology Goals for Teachers***

Through the ongoing use of technology in the instruction process, students are empowered to achieve important technology literacy skills. The key individual in helping students develop those capabilities is the classroom teacher. The teacher is responsible for establishing the classroom environment and preparing the learning opportunities that facilitate students' use of technology to learn, communicate, and produce knowledge projects. Consequently, it is critical that all classroom teachers are prepared to provide their students with these opportunities.

All teachers will use technology as easily as they use pencil and paper. Teachers should be able to see the relevance of technology to all areas of the curriculum for which they are responsible. They should be fluent enough with technology to keep records, retrieve and manipulate information on the network, and work with their students to achieve their goals.

All teachers throughout the District will be able to meet the standards and performance indicators based on the International Society for Technology in Education (ISTE) National Educational Technology Standards (NETS) (page 18).

On-going staff development programs will be established to enhance the technological knowledge and skills of all personnel. The continued professional growth is the shared responsibility of the school district and the individual employees.

Students and teachers should realize a spirit of learning together as members of a learning team.

**INTERNATIONAL SOCIETY FOR TECHNOLOGY IN EDUCATION (ISTE)  
NATIONAL EDUCATIONAL TECHNOLOGY STANDARDS (NETS)  
AND PERFORMANCE INDICATORS 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.

## ***Current Status of Technology***

### **1. District-wide**

#### 1.1. Staff Development

- 1.1.1. There are no requirements or guidelines for staff attendance to technology training.
- 1.1.2. Technology training has not been provided to staff beyond impromptu opportunities between colleagues. While most teachers have basic computing skills, they lack the knowledge to effectively use the technical tools in their curriculum.
- 1.1.3. A technology training curriculum and schedule has not been developed. Specific in-service opportunities for technology use have not been identified.
- 1.1.4. There are no opportunities for new staff to receive training specifically targeting network use and accessing server resources.
- 1.1.5. Technology survey given December 2005 reflects staff desire to receive further training for PowerGrade, and Office applications specifically, PowerPoint, web page content management. Teacher Solution at the secondary level.

#### 1.2. Curriculum/Student Achievement

- 1.2.1. Awareness of state-adopted content standards and benchmarks that include integration of technology has not been adequately communicated to teaching staff.
- 1.2.2. Distance learning activities are currently not being utilized which limits the educational opportunities that the district can offer.
- 1.2.3. Technology use in the elementary curriculum varies depending upon the experience of the teacher and the availability of appropriate hardware and software. Keyboarding, word processing, drawing, and basic Internet use are some of the more common experiences for many elementary students.
- 1.2.4. Upon leaving middle school, students are expected to have keyboarding, word processing, database, and spreadsheet experience. In addition, students in our middle schools use online reference services, create electronic presentations and desktop publications, and create personal web pages. While these are the expectations, they are not applied uniformly due to the varied knowledge of the instructional staff.
- 1.2.5. Estacada High School students may take elective courses to help develop skills in word processing, database management and spreadsheets, graphics, presentations and web page creation. Students then have the opportunity to apply these skills in the various content areas such as

English, Journalism, Science and Math. Some of these opportunities include: Utilizing computers in the professional technical areas such as manufacturing, agriculture and drafting; The use of technology (CIS - Career Information Services) to explore career options and develop job search materials e.g. resumes. These expectations are not uniformly applied due to the varied technical knowledge of the teaching staff.

1.2.6. Students are lacking keyboarding skills. No formalized curriculum is in place at the elementary level.

1.2.7. The district is using two different Reading Management tools. Accelerated Reader at Eagle Creek and Reading Counts at Rivermill and Clackamas River. The versions of Reading Counts are different.

### 1.3. Hardware

1.3.1. Many of the workstations in the district are aging. While the teacher workstations are less than two years old, most of the workstations available for student use are over four years old.

1.3.2. A district-wide hardware standard has not been established.

### 1.4. Software

1.4.1. A software use and implementation plan does not exist.

1.4.2. A partial list of software licensing has been developed.

1.4.3. The operating system and Office package is six years old. This has been adequate to this point but there is no plan in place to update systems to current versions.

1.4.4. Teacher Solution needs to be easier for elementary staff to use.

### 1.5. Support

1.5.1. There is not a consistent protocol established for submitting work orders and project requests.

1.5.2. Due to the lack of human resources, the technology department is sometimes unable to respond in a timely manner to support requests. Maintenance of technology equipment continues to be a time consuming and an on-going issue.

1.5.3. A full-time Instructional Technology Director oversees the purchasing of computer equipment, the operations of the technology department, and technology training for the district. Two full-time district computer technicians work in all buildings with a focus on network and local area network (LAN) issues. Out of necessity, one of these technicians has become the student information system manager and a support for state and federal reporting. This has essentially reduced the technology support team to two persons. This has also resulted in the focus being

placed on technical tasks and not on providing professional development for the staff.

- 1.5.4. Each school has one technology coordinator who is expected to provide 1.5 hours a week for technology support. In reality, the technology coordinators are spending three to five hours per week for technology support. Students sometimes assist in maintenance at the high school.

## 1.6. Network

- 1.6.1. All buildings in the district are connected to the Internet through two T1 lines via the Clackamas Education Service District. All classrooms are connected to the district's Wide Area Network. All schools are all interconnected with fiber optic cable.

1.6.2. Server systems are a hybrid Novell and Windows.

1.6.3. The network is made up of hubs and switches. Hubs do not allow effective high-speed data transmission and causes loss of data integrity.

1.6.4. Instructional uses of the network include student research using on-line databases, searching the Internet, portfolio storage, and presentations.

1.6.5. Administrative uses of the network include payroll, accounts payable, personnel, attendance, grade reports, transcripts, communication and inventory.

## 1.7. Facilities

- 1.7.1. State requirements have necessitated the computing labs be scheduled for testing. The limited access has reduced the instructional opportunities that can occur in the labs.

## 1.8. Website

1.8.1. The district's website is very basic. While information is accurate, the presentation is inadequate and does not serve as a good communication tool between the district and the community. In order to edit web pages, staff must have a basic understanding of html or use a web editor.

1.8.2. No policy is in effect to regulate the posting of content on the district or school website.

## 1.9. Purchasing

1.9.1. A consistent purchasing policy is not in place or has not been communicated to the staff.

## 1.10. Grants

1.10.1. In order to explore grants as an alternative funding source, a policy has been created to allow district staff to seek such grants. All technology

grants applications should receive approval and subsequent support from the Technology Office.

1.11. Policies

1.11.1. Web site posting procedure and content policy not in place

1.11.2. Copyright and plagiarism policy not in place

1.11.3. Acceptable Use Policy does not contain specific language regarding web site access and safeguards.

## **2. High School**

### **2.1. Staff Development**

2.1.1. Technology training has not been provided to staff beyond impromptu opportunities between colleagues. While most teachers have basic computing skills, they lack the knowledge to effectively use the technical tools in their curriculum.

### **2.2. Curriculum/Student Achievement**

2.2.1. Educational-appropriate software is lacking to enhance the curriculum in all areas.

2.2.2. Awareness of state-adopted content standards and benchmarks that include integration of technology has not been adequately communicated to teaching staff

2.2.3. Estacada High School students may take elective courses to help develop skills in word processing, database management and spreadsheets, graphics, presentations and web page creation. Students then have the opportunity to apply these skills in the various content areas such as English, Journalism, Science and Math. Some of these opportunities include: Utilizing computers in the professional technical areas such as manufacturing, agriculture and drafting; The use of technology (CIS - Career Information Services) to explore career options and develop job search materials e.g. resumes. These expectations are not uniformly applied due to the varied technical knowledge of the teaching staff.

### **2.3. Hardware**

2.3.1. The current number of workstations in the building is inadequate to meet the curricular needs of the students.

2.3.2. The age of the workstations in the Auxiliary lab is causing beyond normal system failures.

### **2.4. Software**

2.4.1. A software use and implementation plan does not exist.

### **2.5. Support**

2.5.1. The building has one technology coordinator who is expected to provide 1.5 hours a week for technology support. In reality, the technology coordinator is spending three to five hours per week for technology support. Students sometimes assist in maintenance at the high school.

### **2.6. Network**

2.6.1. The network is made up of hubs and switches of various makes. Hubs do not allow high-speed data transmission and causes loss of data integrity. Therefore, the network is not used at its most efficient level.

2.7. Facilities

2.7.1. Lab space is inadequate for instruction and testing requirements.

2.8. Website

2.8.1. The website is out of date and incomplete. It does not serve as a good communication tool to the community.

### **3. Junior High**

#### 3.1. Staff Development

- 3.1.1. Technology training has not been provided to staff beyond impromptu opportunities between colleagues. While most teachers have basic computing skills, they lack the knowledge to effectively use the technical tools in their curriculum.

#### 3.2. Curriculum/Student Achievement

- 3.2.1. Educational-appropriate software is lacking to enhance the curriculum in all areas.
- 3.2.2. Awareness of state-adopted content standards and benchmarks that include integration of technology has not been adequately communicated to teaching staff
- 3.2.3. Upon leaving middle school, students are expected to have keyboarding, word processing, database, and spreadsheet experience. In addition, students in our middle schools use online reference services, create electronic presentations and desktop publications, and create personal web pages. While these are the expectations, they are not applied uniformly due to the varied knowledge of the instructional staff.

#### 3.3. Hardware

- 3.3.1. The current number of workstations in the building is inadequate to meet the curricular needs of the students.
- 3.3.2. The age of the workstations in the Auxiliary lab is causing beyond normal system failures.
- 3.3.3. There is only one computer available for student use in the media center.

#### 3.4. Software

- 3.4.1. A software use and implementation plan does not exist.

#### 3.5. Support

- 3.5.1. The building has one technology coordinator who is expected to provide 1.5 hours a week for technology support. In reality, the technology coordinator is spending three to five hours per week for technology support. Students sometimes assist in maintenance at the high school.

#### 3.6. Network

- 3.6.1. The network is made up of hubs and switches of various makes. Hubs do not allow high-speed data transmission and causes loss of data integrity. Therefore, the network is not used at its most efficient level.

#### 3.7. Facilities

- 3.7.1. Because of the increased requirements for student testing, lab space is inadequate for instruction and testing requirements.

3.8. Website

- 3.8.1. The website is up to date. It has been designed independently of the district site and other schools.

#### **4. Clackamas River Elementary**

##### 4.1. Staff Development

- 4.1.1. Technology training has not been provided to staff beyond impromptu opportunities between colleagues. While most teachers have basic computing skills, they lack the knowledge to effectively use the technical tools in their curriculum.

##### 4.2. Curriculum/Student Achievement

- 4.2.1. Educational-appropriate software is lacking to enhance the curriculum in all areas.
- 4.2.2. Awareness of state-adopted content standards and benchmarks that include integration of technology has not been adequately communicated to teaching staff
- 4.2.3. Technology use in the elementary curriculum varies depending upon the experience of the teacher and the availability of appropriate hardware and software. Keyboarding, word processing, drawing, and basic Internet use are some of the more common experiences for many elementary students. Students also have access to phonics based software.

##### 4.3. Hardware

- 4.3.1. The current number of workstations in the building is inadequate to meet the curricular needs of the students.
- 4.3.2. The building does not have a color printer.
- 4.3.3. The school does not have a laptop computer for teacher use to take notes during a conference or to write an IEP during a meeting.
- 4.3.4. The computer lab does not have an LCD projector.

##### 4.4. Software

- 4.4.1. A software use and implementation plan does not exist.

##### 4.5. Support

- 4.5.1. The building has one technology coordinator who is expected to provide 1.5 hours a week for technology support. In reality, the technology coordinator is spending three to five hours per week for technology support.

##### 4.6. Network

- 4.6.1. The network consists of lower end switching.

##### 4.7. Facilities

- 4.7.1. Lab space is inadequate for instruction and testing requirements.

4.8. Website

- 4.8.1. The website is up to date. It has been designed independently of the district site and other schools.

## **5. River Mill Elementary**

- 5.1.1. Technology training has not been provided to staff beyond impromptu opportunities between colleagues. While most teachers have basic computing skills, they lack the knowledge to effectively use the technical tools in their curriculum.
- 5.2. Curriculum/Student Achievement
  - 5.2.1. Educational-appropriate software is lacking to enhance the curriculum in all areas.
  - 5.2.2. Awareness of state-adopted content standards and benchmarks that include integration of technology has not been adequately communicated to teaching staff
  - 5.2.3. Technology use in the elementary curriculum varies depending upon the experience of the teacher and the availability of appropriate hardware and software. Keyboarding, word processing, drawing, and basic Internet use are some of the more common experiences for many elementary students.
- 5.3. Hardware
  - 5.3.1. The current number of workstations in the building is inadequate to meet the curricular needs of the students.
  - 5.3.2. The building does not have a color printer.
  - 5.3.3. The school does not have a laptop computer for teacher use to take notes during a conference or to write an IEP during a meeting.
  - 5.3.4. The computer lab does not have an LCD projector.
- 5.4. Software
  - 5.4.1. A software use and implementation plan does not exist.
- 5.5. Support
  - 5.5.1. The building has one technology coordinator who is expected to provide 1.5 hours a week for technology support. In reality, the technology coordinator is spending three to five hours per week for technology support. Students sometimes assist in maintenance at the high school.
- 5.6. Network
  - 5.6.1. The network is made up of hubs and switches of various makes. Hubs do not allow high-speed data transmission and causes loss of data integrity. Therefore, the network is not used at its most efficient level.
- 5.7. Facilities
  - 5.7.1. Lab space is inadequate for instruction and testing requirements.

5.8. Website

5.8.1. The website is up to date. It has been designed independently of the district site and other schools.

## **6. Eagle Creek Elementary**

### 6.1. Staff Development

6.1.1. Technology training has not been provided to staff beyond impromptu opportunities between colleagues. While most teachers have basic computing skills, they lack the knowledge to effectively use the technical tools in their curriculum.

### 6.2. Curriculum/Student Achievement

6.2.1. Educational-appropriate software is lacking to enhance the curriculum in all areas.

6.2.2. Awareness of state-adopted content standards and benchmarks that include integration of technology has not been adequately communicated to teaching staff

6.2.3. Technology use in the elementary curriculum varies depending upon the experience of the teacher and the availability of appropriate hardware and software. Keyboarding, word processing, drawing, and basic Internet use are some of the more common experiences for many elementary students.

### 6.3. Hardware

6.3.1. The current number of workstations in the building is inadequate to meet the curricular needs of the students.

6.3.2. The building does not have a color printer.

6.3.3. The school does not have a laptop computer for teacher use to take notes during a conference or to write an IEP during a meeting.

### 6.4. Software

6.4.1. A software use and implementation plan does not exist.

6.4.2. Accelerated Reader is not available on networked workstations in the classrooms

### 6.5. Support

6.5.1. The building has one technology coordinator who is expected to provide 1.5 hours a week for technology support. In reality, the technology coordinator is spending three to five hours per week for technology support. Students sometimes assist in maintenance at the high school.

### 6.6. Network

6.6.1. The network is made up of hubs and switches of various makes. Hubs do not allow high-speed data transmission and causes loss of data integrity. Therefore, the network is not used at its most efficient level.

6.7. Facilities

6.7.1. Lab space is inadequate for instruction and testing requirements.

6.8. Website

6.8.1. The website is up to date. It has been designed independently of the district site and other schools.

## **7. Central Office**

### 7.1. Staff Development

- 7.1.1. Central Office staff attend training on an as needed basis. Most of the training is delivered by the ESD and targeted toward systems hosted by the ESD.

### 7.2. Curriculum/Student Achievement

- 7.2.1. N/A

### 7.3. Hardware

- 7.3.1. The current workstations in the Central Office and auxiliary centers are adequate to meet the needs of the staff.

### 7.4. Software

- 7.4.1. A software use and implementation plan does not exist.

### 7.5. Support

- 7.5.1. The Central Office is supported by the Technology Department.

### 7.6. Network

- 7.6.1. The network is made up of lower end switches.

### 7.7. Facilities

- 7.7.1. N/A

### 7.8. Website

- 7.8.1. The Central Office website is part of the District's site and is up to date.

## ***Recommendations***

### **1. District-wide. The following items are pertinent and should be addressed as soon as possible:**

#### **1.1. Staff Development**

- 1.1.1. Develop requirements and guidelines for staff attendance to training. This should be done in accordance to existing bargaining agreements with licensed staff. *Curriculum Director, Aug 2006.*
  - 1.1.1.1. Training sessions will be offered during in-service days and outside the normal working day at no cost to the participant. PDU's will be offered.
- 1.1.2. Provide training to instruct all licensed staff to effectively utilize and integrate technology into their daily instruction. Training to be based on Skills and Competencies Framework. *Instructional Technology Director, begin Aug 2006 and ongoing.*
- 1.1.3. Develop new staff technology training targeting network use and accessing server resources. *Instructional Technology Director. Aug 2006*
- 1.1.4. Provide training to instruct all classified staff to effectively utilize and integrate technology into their daily work. Develop a matrix of responsibilities and required technical skills. *Human Resources, Dec 2006 and ongoing.*
- 1.1.5. To take advantage of the beginning of the year enthusiasm of the staff, the first two days of in-service opportunities should be focused on PowerGrade refresher, PowerPoint, Excel, Publisher at the secondary levels and Groupwise. Classes will be offered on an as needed basis. *Curriculum/Instructional Technology Director, Aug 2006.*
- 1.1.6. Conduct a yearly survey to assess the training needs of all staff. Plan for in-service time in each yearly calendar. 2006 –2007 training will be based on survey responses submitted in December 2005. *Instructional Technology Director, Dec 2006.*
- 1.1.7. Investigate the availability of, or develop a bank of easy to use technology lessons for those staff that are in need of beginning instructional tools. *Technology Committee, Aug 2006.*
- 1.1.8. Develop a repository of tutorials that will act as a resource for currently implemented software such as powergrade, excel, word, etc. Technology Committee, begin Summer 2006.

- 1.2. Curriculum/Student Achievement
  - 1.2.1. Distribute Skills and Competencies Framework to all teaching staff. Post on district web site. *Instructional Technology Director, Aug 2006.*
  - 1.2.2. Distance learning:
    - 1.2.2.1. The technology committee will explore existing opportunities for distance education. They will develop as an addendum to this document a plan for integrating distance education opportunities where appropriate and feasible. *Technology Committee, Dec 2006.*
  - 1.2.3. Digital based video curriculum
    - 1.2.3.1. Provide access to Digital Curriculum available from the ESD to all schools. *Instructional Technology Director, Oct 2006.*
- 1.3. Hardware
  - 1.3.1. The technology committee will determine a reasonable computer to student ratio. This will be determined on funding, available support staff, space in the classrooms, existing electrical and network access. *Technology Committee, June 2006.*
  - 1.3.2. Develop a workstation replacement plan based on a five year cycle. *Instructional Technology Director, June 2006.*
- 1.4. Software
  - 1.4.1. The Instructional Technology Director will approve all software considerations. The person requesting a new software title will be responsible to obtain a demonstration copy for testing and compatibility purposes. See the Approval Form in Appendix A. *Ongoing.*
  - 1.4.2. All software must have a purchased license before installation. Develop a district database of software licenses. *Instructional Technology Director, December 2006.*
  - 1.4.3. A committee will be created to research software titles that will support the district's curricular goals. The committee should be made up of representatives from each school to develop a continuum of software titles that will address the following areas: Reading, Mathematics, Writing, and Critical Thinking & Problem Solving. This software continuum will be applicable from kindergarten through the twelfth grade. Currently, writing software has been identified by the technology committee as the most immediate software need at the elementary level. *This committee will be established by December 2006.*
  - 1.4.4. Teacher Solution should be revised to be easier to use at all levels.
  - 1.4.5. Considerations for software selection:
    1. Cost

2. Operating system requirements.
3. Memory requirements.
4. Alignment with curriculum.
5. Guidelines similar to those used for any curriculum material.
6. Learning styles of students.
7. Benefits for High need students
8. Reviews from professional journals.

## 1.5. Support

### 1.5.1. Hardware Support

- 1.5.1.1. Hire an additional full time technician as soon as possible to adequately and effectively support the district's technology efforts. *Superintendent and Instructional Technology Director, August 2006.*
- 1.5.1.2. A work order system will be implemented to track all repair and project requests. *Instructional Technology Director, June 2006.*
- 1.5.1.3. Explore the possibility of utilizing students to assist in the day-to-day support of the network and computers as a way of giving them valuable computer technical experience and to minimize the work overload the technology department. *Instructional Technology Director, ongoing.*
- 1.5.1.4. Change the hour per week expectation of the technology coordinators to 5 hours per week. Adjust the stipend amount accordingly. *Instructional Technology Director, July 2006.*
- 1.5.1.5. Hire building technology coordinators to work on technology projects in the summer. *Instructional Technology Director, June 2006.*

## 1.6. Network

- 1.6.1. Continue to research the options available to increase bandwidth connecting the district to the world. *Instructional Technology Director, June 2006.*
- 1.6.2. Update server systems
  - 1.6.2.1. Server is a hybrid environment consisting of Novell and Windows. Novell servers are currently being updated to Novell 6.5. As updates and patches become available, they will be applied to the servers. The Windows servers are running WS 2000 and 2003. Each server will be upgraded to run the latest version and patches. *Instructional Technology Director, ongoing.*

- 1.6.3. Upgrade existing switch infrastructure
  - 1.6.3.1. The current switch/hub infrastructure is hindering the ability to use state of the art software and resources. *A recommendation for an upgrade to the network infrastructure will be made to the Board of Directors in May 2006.*
- 1.7. Facilities
  - 1.7.1. Lab space.
    - 1.7.1.1. Investigate the possible purchase of mobile labs to increase access to computers at each school. *Instructional Technology Director, Dec 2006.*
- 1.8. Web Site
  - 1.8.1. The website will be contracted out to a professional web developer. The site will have the functionality to be edited by designated staff without the need for web programming knowledge or html editors. *Instructional Technology Director, July 2006. Classroom access by Oct 2006.*
  - 1.8.2. Develop a consistent procedure for posting all content on the web site. *P-Team September 2006.*
- 1.9. Purchasing
  - 1.9.1. All purchases for computer-related hardware and software will be authorized through this office. Recommendations for purchase will come from each building, through the building principal. *Instructional Technology Director, ongoing.*
- 1.10. Grants
  - 1.10.1. All technology grants applications should receive approval and subsequent support from the Technology Office. *Instructional Technology Director, ongoing.*
- 1.11. Policies
  - 1.11.1. Develop a consistent web site posting procedure and content policy. *Instructional Technology Director, Aug 2006.*
  - 1.11.2. Develop Copyright and Plagiarism guidelines. Post on website and in each computer lab. *Instructional Technology Director, Aug 2006*
  - 1.11.3. Acceptable Use Policy needs revision to reflect changes in web site access and safeguards. *Instructional Technology Director, ongoing.*
- 1.12. E-Rate
  - 1.12.1. E-Rate funds will be sought for:
    - 1.12.1.1. Basic phone service
    - 1.12.1.2. Cell phone service
    - 1.12.1.3. T-1 lines that connect the district to the Internet

- 1.12.1.4. T-1 line that provides phone service to Eagle Creek
- 1.12.1.5. Fiber connection that provides Internet to Eagle Creek
- 1.12.1.6. Explore the possibility of funding increased bandwidth through wireless

## **2. High School**

- 2.1. Technology training. See 1.1.
- 2.2. Curriculum/Student Achievement. See 1.2.
- 2.3. Hardware. See 1.3.
  - 2.3.1. Develop a replacement plan for the Auxiliary Lab. *Principal/Instructional Technology Director, Nov 2006.*
- 2.4. Software. See 1.4.
- 2.5. Support. See 1.5.
  - 2.5.1. Develop a Student Technician program to help support the high school and provide on the job training for students. *Principal/Instructional Technology Director, July 2006.*
- 2.6. Network. See 1.6.
- 2.7. Facilities. See 1.7.
  - 2.7.1. Research the possibility of adding a computing lab in the library. *Principal/Instructional Technology Director, June 2006.*
- 2.8. Website. See 1.8.
- 2.9. Purchasing. See 1.9.

### **3. Junior High**

- 3.1. Technology training. See 1.1.
- 3.2. Curriculum/Student Achievement. See 1.2.
- 3.3. Hardware. See 1.3.
  - 3.3.1. Add 4 workstations to the library. *Instructional Technology Director, Aug 2006.*
- 3.4. Software. See 1.4.
- 3.5. Support. See 1.5.
- 3.6. Network. See 1.6.
- 3.7. Facilities. See 1.7.
  - 3.7.1. Research the possibility of space for a computer lab to house fifteen workstations for the mathematics department. *Principal/Instructional Technology Director, June 2006.*
- 3.8. Website. See 1.8.
- 3.9. Purchasing. See 1.9.

#### **4. Clackamas River Elementary**

- 4.1. Technology training. See 1.1.
- 4.2. Curriculum/Student Achievement. See 1.2.
- 4.3. Hardware. See 1.3.
  - 4.3.1. Install a color LaserJet printer for building-wide use. *Instructional Technology Director, Aug 2006.*
  - 4.3.2. Purchase a laptop, projector and mobile cart for shared teacher access. *Instructional Technology Director, Aug 2006.*
- 4.4. Software. See 1.4.
- 4.5. Support. See 1.5.
- 4.6. Network. See 1.6.
- 4.7. Facilities. See 1.7.
- 4.8. Website. See 1.8.
- 4.9. Purchasing. See 1.9.

## **5. River Mill Elementary**

- 5.1. Technology training. See 1.1.
- 5.2. Curriculum/Student Achievement. See 1.2.
- 5.3. Hardware. See 1.3.
  - 5.3.1. Install a color LaserJet printer for building-wide use. *Instructional Technology Director, Aug 2006.*
  - 5.3.2. Purchase a laptop, projector and mobile cart for shared teacher access. *Instructional Technology Director, Aug 2006.*
- 5.4. Software. See 1.4.
- 5.5. Support. See 1.5.
- 5.6. Network. See 1.6.
- 5.7. Facilities. See 1.7.
- 5.8. Website. See 1.8.
- 5.9. Purchasing. See 1.9.

## **6. Eagle Creek Elementary**

- 6.1. Technology training. See 1.1.
- 6.2. Curriculum/Student Achievement. See 1.2.
- 6.3. Hardware. See 1.3.
  - 6.3.1. Install a color LaserJet printer for building-wide use. *Instructional Technology Director, Aug 2006.*
  - 6.3.2. Purchase a laptop, projector and mobile cart for shared teacher access. *Instructional Technology Director, Aug 2006.*
- 6.4. Software. See 1.4.
- 6.5. Support. See 1.5.
- 6.6. Network. See 1.6.
- 6.7. Facilities. See 1.7.
- 6.8. Website. See 1.8.
- 6.9. Purchasing. See 1.9.

## **7. Central Office**

- 7.1. Technology training. See 1.1.
- 7.2. Curriculum/Student Achievement. See 1.2.
- 7.3. Hardware. See 1.3.
- 7.4. Software. See 1.4.
- 7.5. Support. See 1.5.
- 7.6. Network. See 1.6.
- 7.7. Facilities. See 1.7.
- 7.8. Website. See 1.8.
- 7.9. Purchasing. See 1.9.

## Anticipated Timeline to Achieve the Recommendations

Technology Plan Time Line/Implementation of Major Items

	06-07	07-08	08-09
<b>K-6</b>	<ul style="list-style-type: none"> <li>○ Evaluate writing software</li> <li>○ Evaluate AR vs. RC</li> <li>○ Implement keyboarding Software</li> <li>○ Training</li> <li>○ Bring more computers on-line</li> <li>○ Periodic hardware upgrades</li> </ul>	<ul style="list-style-type: none"> <li>○ Implement writing software</li> <li>○ Implement reading program</li> <li>○ Implement K-6 scope &amp; sequence (in phases)</li> <li>○ Full time lab instructor</li> <li>○ Training</li> </ul>	<ul style="list-style-type: none"> <li>○ Training</li> </ul>
<b>7-8</b>	<ul style="list-style-type: none"> <li>○ Training</li> <li>○ Bring more computers on-line</li> <li>○ Periodic hardware upgrades</li> </ul>	<ul style="list-style-type: none"> <li>○ Training</li> </ul>	<ul style="list-style-type: none"> <li>○ Training</li> <li>○ Implement 7-8 Scope &amp; Sequence (in phases)</li> </ul>
<b>9-12</b>	<ul style="list-style-type: none"> <li>○ Training</li> <li>○ Bring more computers on-line</li> <li>○ Update "Aux" lab</li> <li>○ Periodic hardware upgrades</li> </ul>	<ul style="list-style-type: none"> <li>○ Training</li> </ul>	<ul style="list-style-type: none"> <li>○ Training</li> <li>○ Implement 9-12 Scope &amp; Sequence (in phases)</li> </ul>
<b>Dist. Wide</b>	<ul style="list-style-type: none"> <li>○ Software Continuum Committee K-12</li> <li>○ Changes to Teacher Solution</li> <li>○ Web site changes (district wide)</li> </ul>	<ul style="list-style-type: none"> <li>○ Begin software implementation K-12</li> </ul>	<ul style="list-style-type: none"> <li>○ Continue software implementation K-12</li> </ul>

## ***Estimated Cost to Achieve the Recommendations***

<b>Professional Development</b>							
Academic Year: 2006-2007							
<b>Action</b>	Train Technology Coordinators	Train Teaching Staff	Train Classified Staff	New Teacher Training	In-Service Instruction	Curriculum Development	Total Cost
<b>Cost</b>	\$1,000	\$5,000	\$1,000	\$500	\$500	\$2,000	<b>\$10,000</b>

<b>Professional Development</b>							
Academic Year: 2007-2008							
<b>Action</b>	Train Technology Coordinators	Train Teaching Staff	Train Classified Staff	New Teacher Training	In-Service Instruction	Curriculum Development	Total Cost
<b>Cost</b>	\$1,500	\$10,000	\$1,500	\$500	\$1,000	\$1,000	<b>\$15,500</b>

<b>Professional Development</b>							
Academic Year: 2008-2009							
<b>Action</b>	Train Technology Coordinators	Train Teaching Staff	Train Classified Staff	New Teacher Training	In-Service Instruction	Curriculum Development	Total Cost
<b>Cost</b>	\$1,500	\$10,000	\$1,500	\$500	\$1,000	\$1,000	<b>\$15,500</b>

<b>Hardware Upgrades and Replacement</b>					
Academic Year: 2006-2007					
<b>Action</b>	Workstation Replacement	Misc. Classroom Equipment	Network and Server Equipment	Misc. Replacement Parts	Total Cost
<b>Cost</b>	\$40,000	\$10,000	\$10,000	\$5,000	<b>\$65,000</b>

<b>Hardware Upgrades and Replacement</b>					
Academic Year: 2007-2008					
<b>Action</b>	Workstation Replacement	Misc. Classroom Equipment	Network Equipment	Misc. Replacement Parts	Total Cost
<b>Cost</b>	\$80,000	\$20,000	\$10,000	\$5,000	<b>\$115,000</b>

<b>Hardware Upgrades and Replacement</b>					
Academic Year: 2008-2009					
<b>Action</b>	Workstation Replacement	Misc. Classroom Equipment	Network Equipment	Misc. Replacement Parts	Total Cost
<b>Cost</b>	\$80,000	\$20,000	\$10,000	\$5,000	<b>\$115,000</b>

<b>Software</b>							
Academic Year: 2006-2007							
<b>Action</b>	Writing	Reading	Math	Critical Thinking	Problem Solving	Other	Total Cost
<b>Cost</b>	?	?	?	?	?	?	<b>\$0</b>

<b>Software</b>							
Academic Year: 2007-2008							
<b>Action</b>	Writing	Reading	Math	Critical Thinking	Problem Solving	Other	Total Cost
<b>Cost</b>	?	?	?	?	?	?	<b>\$0</b>

<b>Software</b>							
Academic Year: 2008-2009							
<b>Action</b>	Writing	Reading	Math	Critical Thinking	Problem Solving	Other	Total Cost
<b>Cost</b>	25	?	?	?	?	?	<b>\$0</b>

# Appendix A

## Estacada School District #108 - Software Evaluation Form

---

Evaluator: \_\_\_\_\_ Date: \_\_\_\_\_

Software Title: \_\_\_\_\_

Publisher: \_\_\_\_\_

Copyright Date: \_\_\_\_\_ Subject Area: \_\_\_\_\_ Grade Level(s): \_\_\_\_\_

Licensing Costs:

Single Copy: \_\_\_\_\_  Lab Pack: \_\_\_\_\_  Site License: \_\_\_\_\_

System Requirements:

- Windows Version: \_\_\_\_\_
- Hard-Drive Space: \_\_\_\_\_
- RAM: \_\_\_\_\_
- Other Requirements: \_\_\_\_\_

---

Briefly describe the program, explaining how you will use it in your curriculum:

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Navigation: Easy Medium Hard

Readability: Low Medium High

Interactivity: Low Medium High

Meets Unit Goals or Standards: No Somewhat Yes

Standard(s) Met: \_\_\_\_\_

Cognitive Level:

- Knowledge     Comprehension     Application  
 Analysis       Synthesis             Evaluation

---

Overall Software Rating (5 being highest):      1      2      3      4      5

## **Appendix B**

### **Copyright Guidelines**

#### **A. Definitions**

1. Copyright - Copyright is a right granted by federal law to an author or producer of literary or other works. The copyright owner has the sole and exclusive privilege of publishing and selling copies of the work. A copyrighted work may only be copied with the permission of the copyright owner except in certain limited instances including those set forth below. A work is protected by copyright law from the time when it is first fixed in tangible form.
2. Fair Use - It is fair use, meaning that the copyright has not been infringed, to reproduce certain amounts of copyrighted materials for purposes such as criticism, comment, news reporting, teaching (including multiple copies of certain works or excerpts there from for classroom use), scholarship or research.

**B. Specific Guidelines** - The guidelines sets forth below have been adopted as administrative rules to assist District efforts to comply with District copyright policy. District staff is expected to familiarize themselves with these guidelines and to assure compliance as necessary.

1. Copying of consumable materials (workbooks, exercises, standardized test booklets and answer sheets are not fair use and constitute an infringement.
2. If a staff member wishes to copy materials in a situation that goes well beyond what guidelines indicate as fair use, he/she should ask for permission. These procedures should be followed:
  - a. The ownership of a work should be determined from the title page. The address of the author, producer or publisher can be found in media center resources for the purpose of submitting a letter of request.
  - b. A letter of request should include full description of material to be used, number of copies needed, use of material, type of reproduction, and whether or not material will be sold.
  - c. Permission should be requested to use specific material.
  - d. A copy of the request letter should be kept and to help assure a return, a self-addressed, stamped envelope should be included.

3. Teachers should instruct students about the copyright law where it applies to their use of copying equipment, or in use of materials for research and scholarship.
4. Staff members should not ask other school personnel to do copying for them if the copying does not constitute fair use or if permission for copying has not been obtained.
5. Permission to use commercial films and videos on the District's closed-circuit television network should be obtained at the time of purchase and kept on file in the media center.
6. Videotaping
  - a. Unless otherwise expanded or limited by the program owner's policy, a school may videotape broadcast programs for use by individual teachers and retain them for periods not to exceed 45 calendar days. Off-air recordings may be used once during the first 10 consecutive school days and repeated once only for instructional reinforcement. After the 10 days, the recordings may be used for teacher evaluation only. Upon conclusion of the 45-day period, the off air recordings must be erased or destroyed immediately. Broadcast programs are television programs transmitted by television stations for reception by the general public without charge.
  - b. Individual teachers may request that a specific program be recorded through the building media department (under the stipulations as found in 6a above).
  - c. Off-air recordings need not be used in their entirety, but the recorded programs may not be altered from their original state. They may not be combined or merged into anthologies or compilations. Copyright notices should be included on the copies of programs.

## 7. Computer Software

It is the intent of the District to adhere to the provisions of copyright laws in the area of microcomputer software. It is also the intent of the District to comply with the license agreements and policy statements contained in the software packages used in the District. In circumstances where the interpretation of the copyright law is ambiguous, the District shall look to the applicable license agreement to determine the appropriate use of software.

In an effort to discourage violation of copyright laws and to prevent such illegal activities:

- a. The ethical and practical implications of software piracy will be taught to all District educators and students.
- b. District employees will be informed that they are expected to adhere to federal copyright law and other state and federal laws and regulations governing the use of software.
- c. When permission is obtained from the copyright holder to use software on a disk-sharing system, efforts will be made to secure this software from copying.
- d. Under no circumstances shall illegal copies of copyrighted software be made or used on school equipment.
- e. The District media director is designated as the only individual who may sign license agreements for software for District schools. Each school using licensed software should have a signed copy of the software agreement.
- f. The building principal of each school site is responsible for establishing practices which will enforce the District copyright policy at the school level.

8. Examples of permissible copying:

- a. Single copies of the following for scholarly research or use in teaching or preparation to teach a class:
  - (1) a chapter from a book
  - (2) an article from a periodical or newspaper
  - (3) a short story, short essay, or short poem
  - (4) a chart, graph, diagram, drawing, or picture from a book, periodical, or newspaper
  - (5) a short excerpt (up to 10 percent from a performable unit of music such as a song or a movement)
- b. Multiple copies (not to exceed one per student in a class) for classroom use for the following, provided that each copy includes a notice of copyright:
  - (1) a complete poem if less than 250 words and printed on not more than two pages
  - (2) a poetic excerpt if less than 250 words
  - (3) a complete article, story or essay of less than 2,500 words
  - (4) a prose excerpt of not more than 1,000 words or 10% of the work, whichever is less , but a minimum of 500 words
  - (5) one illustration (chart, diagram, graph, etc.)
  - (6) an excerpt of not more than two pages, or not more that 10%, of special works (works of poetry, prose or poetic prose, combining language with illustration), provided that the entire work is not reproduced

- (7) up to 10% of a performable unit of music (song, movement, etc.) for purposes other than performance.
  - c. A single recording of student performances for evaluation, rehearsal or archival purposes.
  - d. A single recording of aural exercises or examination questions using excerpts from recorded copyright materials.
9. Examples of copying that may constitute an infringement:
  - a. Copying to create, replace or substitute for anthologies or compilations.
  - b. Copying to substitute for purchase of the work.
  - c. Copying on direction from higher authority.
  - d. Copying of music or lyrics for performance with one exception - emergency replacement copy to substitute for a purchased copy that is not available for imminent musical performance.
  - e. Copying of protected computer software without a license agreement signed by the District media specialist.
  - f. Copying of works intended to be consumable in the course of studying or of teaching, such as workbooks, exercises, standardized tests, and answer sheets.
  - g. Copying without inclusion of the copyright notice that appears on the printed copy.
10. In-service education regarding copyright guidelines will be initiated by the Instructional Technology Director and replicated as necessary to assure staff understanding and compliance. Notice of the District's copyright policy will be posted in all employee posting locations in every building of the District, media centers and in close proximity to all copy machines. A warning concerning copyright restrictions will also be posted in the same locations.

## **Appendix C**

### **Minimum Standards for Computers**

Estacada School District will support computers that meet the following minimum standards:

- Intel or AMD based Pentium III or IV 1.0 GhZ or higher desktop (Celeron 1.1 GhZ or higher), 17 inch monitor (1024 X 768 resolution; or 15 inch or larger LCD flat panel), keyboard and mouse, or 800 MhZ or higher laptop, min. 128 MB RAM and 10 GB hard drive, CD-ROM drive, USB ports, Windows 2000 or higher\*, Ethernet NIC card, and sound card

These standards are based upon a "rule of thumb" of providing computers to schools that are 4 years old or newer). These standards were updated in June, 2006, and will be updated annually.

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*\*Note: Windows 98 may be installed on older non-supported machines. Non-supported means when it breaks, it will be disposed of.*

## **Appendix D**

### Estacada School District Acceptable Use Policy Agreement

Dear Parent(s),

Your student will be able to communicate with other schools, colleges, organizations and individuals around the world through the Internet and other electronic information systems/networks.

With this educational opportunity also comes responsibility. It is important that you and your student understand that appropriate use of the Internet and other digital systems is expected of everyone in the school district. Any inappropriate system use will result in discipline up to and including expulsion from school, suspension or revocation of your student's access to the district's system and/or referral to law enforcement officials.

Although the district is committed to practices that ensure the safety and welfare of system users, including the use of technology protection measures such as Internet filtering, please be aware that there may still be material or communications on the Internet that district staff, parents and students may find objectionable. While the district neither encourages nor condones access to such material, it is not possible for us to eliminate that access completely.

We encourage you to read the Board of Directors policy IIBGA and IIBGA-AR concerning electronic communication systems. A copy is available in each school office and on the district's web site under Plans and Policies.

Please sign in the spaces below to acknowledge your understanding of this agreement. Return this signed notification as soon as possible so your student may begin to use the computer systems. If you have any questions, please contact your school office.

Respectfully,

Michael Call  
Superintendent

---

Student Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Parent Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Code: IIBGA  
Adopted: Unknown  
Readopted: 7/14/04  
Orig. Code(s): IIBGA

### **Electronic Communications System**

The Board is committed to the development and establishment of a quality, equitable and cost-effective electronic communications system. The system's sole purpose shall be for the advancement and promotion of learning and teaching.

The district's system will be used to provide statewide, national and global communications opportunities for staff and students.

The superintendent will establish administrative regulations for the use of the district's system, including compliance with the following provisions of the Children's Internet Protection Act:

1. Technology protection measures, installed and in continuous operation, that protect against Internet access by both adults and minors to visual depictions that are obscene, child pornography or, with respect to the use of the computers by minors, harmful to minors;
2. Monitoring the online activities of minors;
3. Denying access by minors to inappropriate matter on the Internet and World Wide Web;
4. Ensuring the safety and security of minors when using electronic mail, chat rooms and other forms of direct electronic communications;
5. Prohibiting unauthorized access, including so-called "hacking" and other unlawful activities by minors online;
6. Prohibiting unauthorized disclosure, use and dissemination of personal information regarding minors;
7. Installing measures designed to restrict minors' access to materials harmful to minors.

The administrative regulations will be consistent with sound guidelines as may be provided by the education service district, the Oregon Department of Education

and/or the Government Standards and Practices Commission and will include a complaint procedure for reporting violations.

Failure to abide by district policy and administrative regulations governing use of the district's system may result in the suspension and/or revocation of system access. Additionally, student violations will result in discipline up to and including expulsion. Staff violations will also result in discipline up to and including dismissal. Violations of law will be reported to law enforcement officials. Fees, fines or other charges may also be imposed.

END OF POLICY

Legal Reference(s):

[ORS 30.765](#)  
[ORS 133.739](#)  
[ORS 163.435](#)  
[ORS 164.345](#)  
[ORS 164.365](#)  
[ORS 167.060](#)  
[ORS 167.065](#)  
[ORS 167.070](#)  
[ORS 167.080](#)  
[ORS 167.087](#)  
[ORS 167.090](#)  
[ORS 167.095](#)  
[ORS Chapter 192](#)  
[ORS 332.107](#)  
[ORS 336.222](#)  
[ORS 339.250](#)  
[ORS 339.260](#)  
[ORS 339.270](#)  
[OAR 581-021-0050](#)  
[OAR 581-021-0055](#)  
[OAR 584-020-0040](#)  
[OAR 584-020-0041](#)

Children's Internet Protection Act, 47 U.S.C. Sections 254 (h) and (l); 47 CFR Section 54.520 (2001).

Copyrights, Title 17, as amended, United States Code; 19 CFR Part 133 (2000).

Oregon Attorney General's Public Records and Meetings Manual, pp. 24-26, Appendix H, Department of Justice (2001).

Safe and Drug-Free Schools and Communities Act, 20 U.S.C. Sections 7101-7117.

Drug-Free Workplace Act of 1988, 41 U.S.C. Sections 701-707; 34 CFR Part 85, Subpart F.

Controlled Substances Act, 21 U.S.C. Section 812, schedules I through V, 21 CFR 1308.11-1308.15 (2000).

Drug-Free Schools and Communities Act Amendments of 1989, P.L. 101-226, 103 Stat. 1928.

Americans with Disabilities Act of 1990, 42 U.S.C. Sections 12101-12213; 29 CFR Part 1630 (2000); 28 CFR Part 35 (2000).

Family Educational Rights and Privacy Act, 20 U.S.C. Section 1232g; 34 CFR Part 99 (2000).

Oregon Government Standards and Practices Commission, Advisory Opinion No. 98A-1003 (July 9, 1998).

No Child Left Behind Act of 2001, P.L. 107-110, Title II, Section 2441.

Code: **IIBGA-AR**

Adopted: 2/13/02  
Revised/Readopted: 7/14/04  
Orig. Code(s): IIBGA-AR

## **Electronic Communications System**

### **Definitions**

- I. "Technology protection measure," as defined by the Children's Internet Protection Act (CIPA) means a specific technology that blocks or filters Internet access to visual depictions that are:
  - a. Obscene, as that term is defined in Section 1460 of Title 18, United States Code;
  - b. Child pornography, as that term is defined in Section 2256 of Title 18, United States Code; or
  - c. Harmful to minors.
- II. "Harmful to minors" as defined by CIPA means any picture, image, graphic image file or other visual depiction that:
  - a. Taken as a whole and with respect to minors, appeals to a prurient interest in nudity, sex or excretion;
  - b. Depicts, describes or represents, in a patently offensive way with respect to what is suitable for minors, an actual or simulated sexual act or sexual contact, actual or simulated normal or perverted sexual acts, or a lewd exhibition of the genitals; and
  - c. Taken as a whole, lacks serious literary, artistic, political or scientific value to minors.
- III. "Sexual act; sexual contact" as defined by CIPA have the meanings given such terms in Section 2246 of Title 18, United States Code.
- IV. "Minor" as defined by CIPA means an individual who has not attained the age of 17. For the purposes of Board policy and this administrative regulation, minor will include all students enrolled in district schools.
- V. "Inappropriate matter" as defined by the district means material that is inconsistent with general public education purposes, the district's mission and goals.<sup>1</sup>

### **General District Responsibilities**

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<sup>1</sup>As inappropriate matter is not defined in the CIPA or regulations, districts should define the scope of what it will regard as inappropriate matter. The language provided in #5. is intended as a guide only.

The district will:

1. Designate staff as necessary to ensure coordination and maintenance of the district's electronic communications system which includes all district computers, e-mail and Internet access;
2. Provide staff training in the appropriate use of the district's system including copies of district policy and administrative regulations. Staff will provide similar training to authorized system users
3. Cooperate fully with local, state or federal officials in any investigation relating to misuse of the district's system;
4. Use only properly licensed software, audio or video media purchased by the district or approved for use by the district. The district will comply with the requirements of law regarding the use, reproduction and distribution of copyrighted works and with applicable provisions of use or license agreements;
5. Install and use desktop and/or server virus detection and removal software;
6. Provide technology protection measures that protect against Internet access by both adults and minors to visual depictions that are obscene, child pornography, or with respect to the use of computers by minors, harmful to minors. An administrator, supervisor or other individual authorized by the superintendent may disable the technology protection measures to enable access for bona fide research or other lawful purposes, as deemed appropriate;
7. Prohibit access by minors, as defined by CIPA and this regulation, to inappropriate matter on the Internet and World Wide Web;
8. Provide staff supervision to monitor the online activities of students to prevent unauthorized access, including "hacking" and other unlawful activities online, and ensure the safety and security of minors when authorized to use e-mail, chat rooms and other forms of direct electronic communication;
9. Determine which users and sites accessible as part of the district's system are most applicable to the curricular needs of the district and may restrict user access, accordingly;
10. Determine which users will be provided access to the district's e-mail system;
11. Program its computers to display a message reinforcing key elements of the district's Electronic Communications System policy and regulation when accessed for use;
12. Notify appropriate system users that:
  - a. The district retains ownership and control of its computers, hardware, software and data at all times. All communications and stored information transmitted, received or contained in the district's information system are the district's

property and are to be used for authorized purposes only. Use of district equipment or software for unauthorized purposes is strictly prohibited. To maintain system integrity, monitor network etiquette and ensure that those authorized to use the district's system are in compliance with Board policy, administrative regulations and law, school administrators may routinely review user files and communications;

- b. Files and other information, including e-mail, sent or received, generated or stored on district servers are not private and may be subject to monitoring. By using the district's system, individuals consent to have that use monitored by authorized district personnel. The district reserves the right to access and disclose, as appropriate, all information and data contained on district computers and district-owned e-mail system;
  - c. The district may establish a retention schedule for the removal of e-mail;
  - d. E-mail sent or received by a Board member or employee in connection with the transaction of public business may be a public record and subject to state archivist rules for retention and destruction;
  - e. Information and data entered or stored on the district's computers and e-mail system may become discoverable evidence if a public records request is made or a lawsuit is filed against the district. "Deleted" or "purged" data from district computers or e-mail system may be retrieved for later public records disclosure or disciplinary purposes, as deemed necessary by the district;
  - f. The district may set quotas for system disk usage. The district may allow system users to increase their quota by submitting a written request to the supervising teacher or system coordinator stating the need for the increase;
  - g. Passwords used on the district's system are the property of the district and must be provided to their supervisor or designated district personnel, as appropriate. Passwords that have not been provided to the district are prohibited;
  - h. Transmission of any materials regarding political campaigns is prohibited.
13. Ensure all student, staff and non-school system users complete and sign an agreement to abide by the district's electronic communications policy and administrative regulations. All such agreements will be maintained on file in the school office.

### **System Access**

1. Access to the district's system is authorized to:

Board members, district employees, students in grades K-12, with parent approval and when under the direct supervision of staff and district volunteers, district contractors or other members of the public as authorized by the system coordinator or district administrators consistent with the district's policy governing use of district equipment and materials.

2. Students, staff and Board members may be permitted to use the district's system to conduct business related to the management of instructional needs of the district or to conduct research related to education. Personal use of district computers including Internet and e-mail access by students and Board members is strictly prohibited. Personal use of district computers including Internet access and e-mail by staff is

restricted. Any personal use by staff is limited to such uses as deemed permissible under the Oregon Government Standards and Practices Commission (GSPC) guidance (e.g., occasional use to type a social letter to a friend or family member, preparation of application materials for another position in the district, or computer games which may serve to improve the individual's keyboard proficiency and software component familiarity). Such use is restricted to the employee's own time.

## **General Use Prohibitions/Guidelines/Etiquette**

Operation of the district's system relies upon the proper conduct and appropriate use of system users. Students, staff and others granted system access are responsible for adhering to the following prohibitions and guidelines which require legal, ethical and efficient utilization of the district's system.

### 1. Prohibitions

The following conduct is strictly prohibited:

- a. Attempts to use the district's system for:
  - (1) Unauthorized solicitation of funds;
  - (2) Distribution of chain letters;
  - (3) Unauthorized sale or purchase of merchandise and services;
  - (4) Collection of signatures;
  - (5) Membership drives;
  - (6) Transmission of any materials regarding political campaigns.
- b. Attempts to upload, download, use, reproduce or distribute information, data or software on the district's system in violation of copyright law or applicable provisions of use or license agreements;
- c. Attempts to degrade, disrupt or vandalize the district's equipment, software, materials or data or those of any other user of the district's system or any of the agencies or other networks connected to the district's system;
- d. Attempts to evade, change or exceed resource quotas or disk usage quotas;
- e. Attempts to send, intentionally access or download any text file or picture or engage in communication that includes material which may be interpreted as:
  - (1) Harmful to minors;
  - (2) Obscene or child pornography as defined by law or indecent, vulgar, profane or lewd as determined by the district;
  - (3) A product or service not permitted to minors by law;
  - (4) Harassment, intimidation, menacing, threatening or constitutes insulting or fighting words, the very expression of which injures or harasses others;
  - (5) A likelihood that, either because of its content or the manner of distribution, it will cause a material or substantial disruption of the proper and orderly operation of the school or school activity;

(6) Defamatory, libelous, reckless or maliciously false, potentially giving rise to civil liability, constituting or promoting discrimination, a criminal offense or otherwise violates any law, rules, regulation, Board policy and/or administrative regulation.

- f. Attempts to gain unauthorized access to any service via the district's system which has a cost involved or attempts to incur other types of costs without specific approval. The user accessing such services will be responsible for these costs;
- g. Attempts to post or publish personal student contact information unless authorized by the system coordinator or teacher and consistent with applicable Board policy pertaining to student directory information and personally identifiable information. Personal contact information includes photograph, age, home, school, work or e-mail addresses or phone numbers or other unauthorized disclosure, use and dissemination of personal information regarding students;
- h. Attempts to arrange student meetings with anyone on the district's system, unless authorized by the system coordinator or teacher and with prior parent approval;
- i. Attempts to use the district's name in external communication forums such as chat rooms without prior district authorization;
- j. Attempts to use another individual's account name or password, fail to provide the district with individual's account name or password, fail to provide the district with individual passwords or to access restricted information, resources or networks to which the user has not been given access.

Appropriate system use etiquette is expected of all users and is explained in district training sessions.

## **Complaints**

Complaints regarding use of the district's Electronic Communications System may be made to the teacher, principal, employee's supervisor or system coordinator. The district's established complaint procedure will be used for complaints concerning violations of the district's Electronic Communications System policy and/or administrative regulation. See Board policy KL and accompanying administrative regulation.

## **Violations/Consequences**

1. Students
  - a. Students who violate general system user prohibitions shall be subject to discipline up to and including expulsion and/or revocation of district system access up to and including permanent loss of privileges.
  - b. Violations of law will be reported to law enforcement officials.
  - c. Disciplinary action may be appealed by parents, students and/or a representative in accordance with established district procedures.
2. Staff

- a. Staff who violate general system user prohibitions shall be subject to discipline up to and including dismissal in accordance with Board policy, collective bargaining agreements and applicable provisions of law.
- b. Violations of law will be reported to law enforcement officials.
- c. Violations of applicable Teacher Standards and Practices Commission (TSPC), Standards for Competent and Ethical Performance of Oregon Educators will be reported to TSPC as provided by OAR 584-020-0041.
- d. Violations of ORS 244.040 will be reported to GSPC.

### 3. Others

- a. Other guest users who violate general system user prohibitions shall be subject to suspension of system access up to and including permanent revocation of privileges.
- b. Violations of law will be reported to law enforcement officials or other agencies, as appropriate.

### **Telephone/Membership/Other Charges**

1. The district assumes no responsibility or liability for any membership or phone charges including, but not limited to, long distance charges, per minute (unit) surcharges and/or equipment or line costs incurred by any home usage of the district's system.
2. Any disputes or problems regarding phone services for home users of the district's system are strictly between the system user and his/her local phone company and/or long distance service provider.

### **Information Content/Third Party Supplied Information**

1. System users and parents of student system users are advised that use of the district's system may provide access to materials that may be considered objectionable and inconsistent with the district's mission and goals. Parents should be aware of the existence of such materials and monitor their student's home usage of the district's system accordingly.
2. Opinions, advice, services and all other information expressed by system users, information providers, service providers or other third-party individuals are those of the providers and not the district.
3. System users may, with supervising teacher or system coordinator approval, order services or merchandise from other individuals and agencies that may be accessed through the district's system. These individuals and agencies are not affiliated with the district. All matters concerning merchandise and services ordered including, but not limited to, purchase terms, payment terms, warranties, guarantees and delivery are solely between the seller and the system user. The district makes no warranties or representation whatsoever with regard to any goods or services provided by the seller. District staff and administration shall not be a party to any such transaction or

be liable for any costs or damages arising out of, either directly or indirectly, the actions or inactions of sellers.

4. The district does not warrant that the functions or services performed by or that the information or software contained on the system will meet the system user's requirements or that the system will be uninterrupted or error-free or that defects will be corrected. The district's system is provided on an "as is, as available" basis. The district does not make any warranties, whether express or implied including, without limitation, those of merchantability and fitness for a particular purpose with respect to any services provided by the system and any information or software contained therein.

## ***Appendix E***

### **ESD Curriculum Frameworks for Educational Technology**

**The following pages are the Scope and Sequence for technology use by students. Grades K-12 are addressed. These standards are based upon the National Educational Technology Standards**

# KINDERGARTEN

By the end of kindergarten students will do the following:

## Basic Operations and Concepts

### General

1. Demonstrate optimal posture and position at the computer workstation. \*
  - Eyes level with the text on the monitor\*
  - Shoulders down, arms relaxed\*
  - Elbows level with keyboard\*
  - Feet and lower back supported\*
2. Use developmentally appropriate keyboard techniques. \*
  - Left hand for left side keys and right hand for right side keys\*
3. Demonstrate appropriate use of special keys. \*
  - *Shift*, arrow, spacebar, *Backspace*, *Enter*\*

### Terminology

4. Utilize developmentally appropriate and accurate terminology to communicate effectively in a technological society.\*
  - Login (log-in)\*
  - Cursor\*
  - Icon\*
  - Scroll bar\*
  - Hour glass/busy\*
  - Word processing\*
  - Internet\*
  - Maximize\*
  - Network\*
  - Folder/directory\*
  - Open file\*

### Computer Hardware/Software

5. Use a variety of media and technology resources for directed and independent learning activities across the curriculum.\*

Examples: software for reading and math, Technology Academy projects, Internet sites
6. Demonstrate correct procedures for opening, closing, and saving files using menu options and commands in appropriate grade/subject instructional software.\*

7. Identify computer hardware components and peripheral devices.

- Keyboard and mouse\*
- Monitor/Screen\*
- Printer\*
- CD-ROM \*
- Headphones and speakers\*
- CPU (Central Processing Unit)\*

8. Distinguish between input, output, and storage devices needed to successfully operate computers, VCRs, audiotapes, and other technologies.\*

Examples:

input-mouse, remote control, keyboard;  
output-monitor/screen, printer, speakers, headphones;  
storage-floppy disks, CDs, hard drives

9. Demonstrate appropriate use of hardware (input/output devices) and media.\*

- Keyboard and mouse\*
- Computer disks\*
- CD-ROM\*
- Off/on switches\*
- Printer\*

### Networking

10. Practice responsible use of networked computer.\*

- Use log-in numbers/names\*
- Use *Log Off*\*
- Use *Shut Down*\*
- Use networked printers\*

### File Management

11. Use basic computer management skills.\*

- Access and exit software\*

## Social, Ethical, and Human Issues

### Information Ownership

12. Interpret copyright laws and policies with regard to ownership and use of electronic information.\*

- Respect privacy of all users through use of security rules\*

## Responsible Use

13. Demonstrate proper care of hardware (computer, peripherals, other equipment ) and media.\*  
Examples: clean hands, treatment of peripherals, clean work area, no magnets around computer station
14. Discuss basic issues related to responsible use of technology systems and software and information including personal consequences of inappropriate use.\*  
Examples: use of login numbers/names, turning the computers on/off independently, accessing and exiting software
15. Identify and practice legal and ethical behaviors when using information and technology.\*
  - Obey copyright laws\*
  - Use appropriate computer netiquette\*
16. Understand and follow the MBS Technology Usage Policy. (See Appendix)\*

## Technology Productivity Tools

### Word Processing

17. Use appropriate techniques for producing word processing documents.\*
  - Open, view, print and close documents\*
    - Use *Open*\*
    - Print entire file\*
  - Use word processor in real world context\*
    - Write stories or poems\*

### Multimedia Authoring

18. Use a variety of media and technology resources to produce developmentally appropriate multimedia products across the curriculum. \*  
Examples: autobiography, story using word processor, or digital presentation

## Technology Research Tools

19. Use appropriate (content-specific) on-line resources to support learning and research.\*
  - Utilize information from locally approved websites\*

## Technology Problem-Solving and Decision-Making Tools

20. Utilize technology for solving problems.\*

Examples: puzzles, graphing software, counting software

\*Asterisk indicates a new skill.

Italicized words indicate special key names and computer commands

# FIRST GRADE

By the end of the first grade students will do the following:

## Basic Operations and Concepts

### General

1. Demonstrate optimal posture and position at the computer workstation.
  - Eyes level with the text on the monitor
  - Shoulders down, arms relaxed
  - Elbows level with keyboard
  - Feet and lower back supported
  - Fingers curved\*
  - Wrists slightly elevated\*
2. Use developmentally appropriate keyboard techniques.
  - Left hand for left side keys and right hand for right side keys
  - Recognize and locate alphabetic keys\*
3. Demonstrate appropriate use of special keys.
  - *Shift*, arrow, spacebar, *Backspace*, *Enter*

### Terminology

4. Utilize developmentally appropriate and accurate terminology to communicate effectively in a technological society.
  - Login (log-in)
  - Cursor
  - Icon
  - Scroll bar
  - Hour glass/busy
  - Word processing
  - Internet
  - Maximize
  - Network
  - Folder/directory
  - Open file
  - Minimize

First Grade-2

5. Use a variety of media and technology resources for directed and independent learning activities across the curriculum.

Examples: software for reading and math, Technology Academy projects, Internet sites

6. Demonstrate correct procedures for opening, closing, and saving files using menu options and commands in appropriate grade/subject instructional software.

7. Identify computer hardware components and peripheral devices.

- Keyboard and mouse
- Monitor/screen
- Printer
- CD-ROM
- Headphones and speakers
- CPU (Central Processing Unit)
- Hard drive\*
- Floppy drive\*
- Disk\*
- File server\*

Example: field trip to school file server and wiring closet

8. Distinguish between input, output, and storage devices needed to successfully operate computers, VCRs, audiotapes, and other technologies.

Examples:

input-mouse, remote control, keyboard;

output-monitor/screen, printer, speakers, headphones;

storage-floppy disks, CDs, hard drives

9. Demonstrate appropriate use of hardware (input/output devices) and media.

- Keyboard and mouse
- Computer disks
- CD-ROM
- Off/on switches
- Printer

## **Operating Systems**

10. Utilize an operating system efficiently.\*

- Start up and shut down—Turn hardware on/off independently\*

## Networking

11. Practice responsible use of networked computer.
  - Use log-in numbers/names
  - Use *Log Off*
  - Use *Shut Down*
  - Use network printers
  - Save files to individual home directories\*
  - Use multiple storage drives (A:\, G:\, and S:\)\*

## File Management

12. Use basic computer management skills.
  - Access and exit software
  - Manage files (save, retrieve)\*

## Social, Ethical, and Human Issues

### Information Ownership

13. Interpret copyright laws and policies with regard to ownership and use of electronic information.
  - Respect the privacy of all users through the use of security rules

### Responsible Use

14. Demonstrate proper care of hardware (computer, peripherals, other equipment) and media.  
Examples: clean hands, clean work area, no magnets, drink, or food around computer
15. Discuss basic issues related to responsible use of technology systems and software and information including personal consequences of inappropriate use.  
Examples: use of login numbers/names, turning the computers on/off independently, accessing and exiting software
16. Identify and practice legal and ethical behaviors when using information and technology.
  - Obey copyright laws
  - Use appropriate computer netiquette
17. Understand and follow the MBS Technology Usage Policy (See Appendix).

## Technology Productivity Tools

### Word Processing

18. Use appropriate techniques for producing word processing documents.

- Create and save a new document\*
  - Identify intended use\*
  - Use *New*\*
  - Use *Save* and *Save As*\*
- Open, view, print, and close documents
  - Use *Open*
  - Print entire file or selected parts
  - Use *Print Preview*\*
- Format documents
  - Select font style and size\*
  - Space words\*
- Use word processor in real world context
  - Write stories or poems

### Multimedia Authoring

19. Use a variety of media and technology resources to produce developmentally appropriate multimedia products across the curriculum.

## Technology Research Tools

20. Use appropriate (content-specific) on-line resources to support learning and research.

- Utilize information from locally approved websites
- Identify appropriate resources\*
  - Example: the Internet

## Technology Problem-Solving and Decision-Making Tools

21. Utilize technology for solving problems.

Examples: puzzles, logical thinking problem, solutions for a class-defined problem

\*Asterisk indicates a new skill.

Italicized words indicate special key names and computer commands.

# SECOND GRADE

By the end of the second grade students will do the following:

## Basic Operations and Concepts

### General

1. Demonstrate optimal posture and position at the computer workstation.
  - Eyes level with the text on the monitor
  - Shoulders down, arms relaxed
  - Elbows level with keyboard
  - Feet and lower back supported
  - Fingers curved
  - Wrists slightly elevated
2. Use developmentally appropriate keyboard techniques.
  - Left hand for left side keys and right hand for right side keys
  - Recognize and locate alphabetic keys
3. Demonstrate appropriate use of special keys.
  - *Shift*, *arrow*, *spacebar*, *Backspace*, *Enter*
  - *Esc*, *Tab*\*

### Terminology

4. Utilize developmentally appropriate and accurate terminology to communicate effectively in a technological society.
  - Login (log-in)
  - Cursor
  - Icon
  - Scroll bar
  - Hour glass/busy
  - Word processing
  - Internet
  - Maximize
  - Network
  - Folder/directory
  - Open file
  - Minimize
  - Edit\*
  - Hardware\*
  - Software\*
  - Copyright\*

## Computer Hardware/Software

5. Use a variety of media and technology resources for directed and independent learning activities across the curriculum.  
Examples: local software, Internet sites, AVL, Athena
6. Demonstrate correct procedures for opening, closing, and saving files using menu options and commands in appropriate grade/subject instructional software.
7. Identify computer hardware components and peripheral devices.
  - Keyboard and mouse
  - Monitor/screen
  - Printer
  - CD-ROM
  - Headphones and speakers
  - CPU (Central Processing Unit)
  - Hard drive
  - Floppy drive
  - Disk
  - File server
  - Digital camera\*
  - Scanner\*
8. Distinguish between input, output, and storage devices needed to successfully operate computers, VCRs, audiotapes, and other technologies.  
Examples:  
Input—mouse, remote control, keyboard;  
Output—monitor/screen, printer, speakers, headphones;  
Storage—floppy disks, CDs, hard drives
9. Demonstrate appropriate use of hardware (input/output devices) and media.
  - Keyboard and mouse
  - Computer disks
  - CD-ROM
  - Off/on switches
  - Printer

## Operating Systems

10. Utilize an operating system efficiently.
  - Start up and shut down -- Turn hardware on/off independently

## Networking

11. Practice responsible use of networked computer.

- Use log-in numbers/names
- Use *Log Off*
- Use *Shut Down*
- Use network printers
- Save files to individual home directories
- Use multiple storage drives (A:\, G:\, and S:\)
- Access on-line information for instruction\*
- Access information from a folder/directory\*

## File Management

12. Use basic computer management skills.

- Access and exit software
- Manage files (save, retrieve)

## Social, Ethical, and Human Issues

### Information Ownership

13. Interpret copyright laws and policies with regard to ownership and use of electronic information.

- Respect the privacy of all users through the use of security rules

### Responsible Use

14. Demonstrate proper care of hardware (computer, peripherals, other equipment) and media.

Examples: clean hands, clean work area, no magnets, drink, or food around computer

15. Discuss basic issues related to responsible use of technology systems and software and information including personal consequences of inappropriate use.

Examples: use of login numbers/names, turning the computers on/off independently, accessing and exiting software

16. Identify and practice legal and ethical behaviors when using information and technology.

- Obey copyright laws
- Use appropriate computer netiquette
- Use Internet appropriately\*

17. Understand and follow the MBS Technology Usage Policy (See Appendix).

## Technology Productivity Tools

### Word Processing

18. Use appropriate techniques for producing word processing documents.

- Create and save a new document
  - Identify intended use
  - Use *New*
  - Use *Save* and *Save As*
- Open, view, print, and close documents
  - Use *Open*
  - Print entire file
  - Use *Print Preview*
  - Print selected parts\*
  - Use *Close*\*
- Format documents
  - Select font style and size
  - Space words
  - Indent\*
  - Justify text\*
- Edit text\*
  - Change font style and size\*
- Use desktop publishing techniques\*
  - Insert graphics\*
  - Size graphics\*
- Use word processor in real world context
  - Write stories or poems

### Multimedia Authoring

19. Use a variety of media and technology resources to produce developmentally appropriate multimedia products across the curriculum.

Examples: autobiography, stories using word processor, slide presentations

## Technology Communication Tools

### Communications Applications

20. Use telecommunications and other media to collaborate and interact with peers and other audiences, following appropriate laws and regulations.\*  
Example: on-line curriculum projects, e-mail pen pal projects with another class, class video exchange with pen pals

## Technology Research Tools

21. Use appropriate (content specific) on-line resources to support learning and research
- Utilize information from locally approved websites
  - Identify appropriate resources

## Technology Problem-Solving and Decision-Making Tools

22. Utilize technology for solving problems.  
Examples: puzzles, logical thinking problems, solutions for a class-defined problem

\*Asterisk indicates a new skill.

Italicized words indicates special key names and computer commands.

# THIRD GRADE

By the end of the third grade students will do the following:

## Basic Operations and Concepts

### General

1. Demonstrate optimal posture and position at the computer workstation.
  - Eyes level with the text on the monitor
  - Shoulders down, arms relaxed
  - Elbows level with keyboard
  - Feet and lower back supported
  - Fingers curved
  - Wrists slightly elevated
2. Use developmentally appropriate keyboard techniques.
  - Recognize and locate alphabetic keys
  - Home row finger placement\*
3. Demonstrate appropriate use of special keys.
  - *Shift*, arrow, spacebar, *Backspace*, *Enter*
  - *Esc*, *Tab*
  - *Ctrl*, *Alt*, *Del*, *Ins*\*

### Terminology

4. Utilize developmentally appropriate and accurate terminology to communicate effectively in a technological society.
  - Login (log-in)
  - Cursor
  - Icon
  - Scroll bar
  - Hour glass/busy
  - Word processing
  - Internet
  - Maximize
  - Network
  - Folder/directory
  - Open file
  - Minimize
  - Edit
  - Hardware
  - Software

- Copyright
- Electronic mail (e-mail)\*
- Software piracy\*
- License agreement\*
- Computer manual\*
- File\*
- Telecommunications\*
- Multimedia\*

### **Computer Hardware/Software**

5. Use a variety of media and technology resources for directed and independent learning activities across the curriculum.
6. Demonstrate correct procedures for opening, closing, and saving files using menu options and commands in appropriate grade/subject instructional software.
7. Identify computer hardware components and peripheral devices.
  - Keyboard and mouse
  - Monitor/screen
  - Printer
  - CD-ROM
  - Headphones and speakers
  - CPU
  - Hard drive
  - Floppy drive
  - Disk
  - File server
  - Digital camera
  - Scanner
8. Demonstrate appropriate use of hardware (input/output devices) and media.
  - Keyboard and mouse
  - Computer disks
  - CD-ROM
  - Off/on switches
  - Printer
9. Demonstrate correct procedures for opening, closing, and saving files using menu options and commands in grade/subject appropriate instructional software.

## Operating Systems

10. Utilize an operating system efficiently.
- Start up and shut down--Turn hardware on/off independently
  - Operating system (Example: Windows) menu items and commands/options\*  
Examples: *File, Edit, View, Help*

## Networking

11. Practice responsible use of networked computer.
- Use log-in numbers/names
  - Use *Log Off*
  - Use *Shut Down*
  - Use network printers
  - Save files to individual home directories
  - Use multiple storage drives (A:\, G:\, and S:\)
  - Access on-line information for instruction
  - Access information from a folder/directory

## File Management

12. Use basic computer management skills.
- Access and exit software
  - Manage files (save, retrieve)

# Social, Ethical, and Human Issues

## Information Ownership

13. Interpret copyright laws and policies with regard to ownership and use of electronic information.
- Respect the privacy of all users through the use of security rules
  - Interpret copyright laws\*

## Responsible Use

14. Demonstrate proper care of hardware (computer, peripherals, other equipment) and media.  
Examples: clean hands, clean work area, no magnets, drink, or food around computer
15. Discuss basic issues related to responsible use of technology systems and software and information including personal consequences of inappropriate use.  
Examples: use of login numbers/names, turning the computers on/off independently, accessing and exiting software

16. Identify and practice legal and ethical behaviors when using information and technology.

- Obey copyright laws
- Use appropriate computer netiquette
- Use Internet appropriately

17. Understand and follow the MBS Technology Usage Policy.

### Implications of Technology Use

18. Identify areas in which technology has impacted human lives.

Examples: transportation, communication, nutrition, sanitation, health care, entertainment

19. Discuss the advantages and disadvantages associated with common uses of technology in daily life.

## Technology Productivity Tools

20. Utilize productivity/multimedia tools and peripherals to support personal productivity, group collaboration, communication, and learning throughout the curriculum.\*

- Word processing software\*
- Telecommunications (e-mail and Internet)\*
- Presentation/authoring software\*
- Web tools\*

### Word Processing

21. Use appropriate techniques for producing word processing documents.

- Create and save a new document
  - Identify intended use
  - Use *New*
  - Use *Save* and *Save As*
- Open, view, print, and close documents
  - Use *Open*
  - Print entire file
  - Use *Print Preview*
  - Print selected parts
  - Use *Close*

- Format documents
  - Select font style and size
  - Space words
  - Indent
  - Justify text
  - Set tabs\*
- Edit text
  - Change font style and size
  - Select text\*
  - Cut, copy, paste, and delete text\*
  - Use spell check\*
- Use desktop publishing techniques
  - Insert graphics
  - Size graphics
- Use word processor in real world context
  - Write stories or poems
  - Type reports\*

### **Multimedia Authoring**

22. Use a variety of media and technology resources to produce developmentally appropriate multimedia products across the curriculum.

Examples: autobiography, stories using word processor, brochures, newspapers, slide presentations, web pages, digital or video presentations

- Prepare an electronic presentation\*
  - Create and edit slides/screens\*
  - Add and edit text (font, size, color)\*
- Create or change the look of presentation\*
  - Customize the background using color or picture\*
  - Arrange objects on the slide/screen\*
  - Insert graphics, clip art, digital pictures, paint, and/or original scanned artwork\*
  - Use Word Art to enhance titles or to create original art
- Customize\*
  - Add slide transitions to slide show\*
- Save\*
  - Use Save to store a presentation as a new and/or existing file \*
  - Use Save As to save the presentation to a new location\*
    - Example: saving to shared directory for use during class presentation \*
  - Close presentation \*

## Technology Communication Tools

### Presentations

23. Demonstrate proficiency in presenting multimedia projects.\*
- Open an existing multimedia project\*
  - Practice presentation skills for audience (use of microphone, posture, delivery skills)\*
  - Deliver presentation using projection device\*

### Communications Applications

24. Use telecommunications and other media to collaborate and interact with peers and other audiences, following appropriate laws and regulations.

Example: on-line curriculum projects such as describing the environment

## Technology Research Tools

25. Use the Internet to access information.\*
26. Use appropriate (content-specific) on-line resources to support learning and research.
- Utilize information from locally approved websites
  - Identify appropriate resources
  - Identify a need for information\*
  - Search electronic card catalogs, AVL, electronic dictionaries, encyclopedias, and almanacs as appropriate\*
  - Search the Internet using developmentally appropriate search engines
27. Apply appropriate techniques for information retrieval.\*
- Key words\*
28. Identify useful information from a search.\*
- Relate search results to class or individual assignments\*
  - Evaluate for accuracy, appropriateness, and relevance\*

## Technology Problem-Solving and Decision-Making Tools

29. Utilize technology for solving problems.

Example: use <http://www.weather.com> (or similar sites) to analyze weather patterns in various parts of the world

\*Asterisk indicates a new skill.

Italicized words indicate special key names and computer commands.

# FOURTH GRADE

By the end of the fourth grade students will do the following:

## Basic Operations and Concepts

### General

1. Demonstrate optimal posture and position at the computer workstation.
  - Eyes level with the text on the monitor
  - Shoulders down, arms relaxed
  - Elbows level with keyboard
  - Feet and lower back supported
  - Fingers curved
  - Wrists slightly elevated
2. Use developmentally appropriate keyboard techniques.
  - Home row finger placement
  - Guidelines from typing program\*
3. Demonstrate appropriate use of special keys.
  - *Shift*, arrow, spacebar, *Backspace*, *Enter*
  - *Shift*, arrow, spacebar, *Backspace*, *Enter*
  - *Esc*, *Tab*
  - *Ctrl*, *Alt*, *Del*, *Ins*
  - *Home*, *End*, *Pgup*, and *Pgdn*\*
4. Utilize developmentally appropriate and accurate terminology to communicate effectively in a technological society.
  - Login (log-in)
  - Cursor
  - Icon
  - Scroll bar
  - Hour glass/busy
  - Word processing
  - Internet
  - Maximize
  - Network
  - Folder/directory
  - Open file
  - Minimize
  - Edit
  - Hardware
  - Software

- Copyright
- Electronic mail (e-mail)
- Software piracy
- License agreement
- Computer manual
- File
- Telecommunication
- Multimedia

### **Computer Hardware/Software**

5. Use a variety of media and technology resources for directed and independent learning activities across the curriculum.
6. Demonstrate correct procedures for opening, closing, and saving files using menu options and commands in appropriate grade/subject instructional software.
7. Identify computer hardware components and peripheral devices.
  - Keyboard and mouse
  - Monitor/screen
  - Printer
  - CD-ROM
  - Headphones and speakers
  - CPU
  - Hard drive
  - Floppy drive
  - Disk
  - File server
  - Digital camera
  - Scanner
8. Demonstrate appropriate use of hardware (input/output devices) and media.
  - Keyboard and mouse
  - Computer disks
  - CD-ROM
  - Off/on switches
  - Printer

## Operating Systems

9. Utilize an operating system efficiently.
- Start up and shut down--Turn hardware on/off independently
  - Operating system (Example: Windows) menu items and commands/options  
Examples: *File, Edit, View, Help*

## Networking

10. Practice responsible use of networked computer.
- Use log-in numbers/names
  - Use *Log Off*
  - Use *Shut Down*
  - Use network printers
  - Save files to individual home directories
  - Use multiple storage drives (A:\, G:\, and S:\)
  - Access on-line information for instruction
  - Access information from a folder/directory

## File Management

11. Use basic computer management skills.
- Access and exit software
  - Manage files (save, retrieve)

## Basic Trouble Shooting

12. Describe correct procedures for troubleshooting simple hardware and software problems.\*  
Examples: rebooting system

## Social, Ethical, and Human Issues

### Information Owners hip

13. Interpret copyright laws and policies with regard to ownership and use of electronic information.
- Respect the privacy of all users through the use of security rules
  - Interpret copyright laws

## Responsible Use

14. Demonstrate proper care of hardware (computer, peripherals, other equipment) and media.  
Examples: clean hands, clean work area, no magnets, drink, or food around computer
15. Discuss basic issues related to responsible use of technology systems and software and information including personal consequences of inappropriate use.  
Examples: use of login numbers/names, turning the computers on/off independently, accessing and exiting software
16. Identify and practice legal and ethical behaviors when using information and technology.
  - Obey copyright laws
  - Use appropriate computer netiquette
  - Use Internet appropriately
17. Understand and follow the MBS Technology Usage Policy.

## Implications of Technology Use

18. Identify areas in which technology has impacted human lives.\*  
Examples: transportation, communication, nutrition, sanitation, health care, entertainment
19. Discuss the advantages and disadvantages associated with common uses of technology in daily life.\*

## Technology Productivity Tools

20. Utilize productivity/multimedia tools and peripherals to support personal productivity, group collaboration, communication, and learning throughout the curriculum.\*
  - Word processing software
  - Telecommunications (e-mail and Internet)
  - Presentation/authoring software
  - Web tools
  - Digital cameras\*
  - Scanners\*

## Word Processing

21. Use appropriate techniques for producing word processing documents.
  - Create and save a new document
    - Identify intended use
    - Use *New*
    - Use *Save* and *Save As*

- Open, view, print, and close documents
  - Use *Open*
  - Print entire file
  - Use *Print Preview*
  - Print selected parts
  - Use *Close*
- Format documents
  - Select font style and size
  - Space words
  - Indent
  - Justify text
  - Set tabs
  - Space lines\*
  - Change case\*
- Edit text
  - Change font style and size
  - Select text
  - Cut, copy, paste, and delete text
  - Use spell check
- Use desktop publishing techniques
  - Insert graphics
  - Size graphics
- Use word processor in real world context
  - Write stories or poems
  - Type reports
  - Generate letters\*

### **Multimedia Authoring**

22. Use a variety of media and technology resources to produce developmentally appropriate multimedia knowledge products across the curriculum.

Examples: autobiography, stories using word processor, brochures, newspapers, slide presentations, web pages, digital or video presentations

- Prepare an electronic presentation
  - Create and edit slides/screens
  - Add and edit text (font, size, color)
  - Create an electronic presentation using research in a real world context\*
- Create or change the look of presentation
  - Customize the background using color or picture
  - Arrange objects on the slide/screen
  - Insert graphics, clip art, digital pictures, paint, and/or original scanned artwork
  - Use Word Art to enhance titles or to create original art

- Customize
  - Add slide transitions to slide show
- Save
  - Use *Save* to store a presentation as a new and/or existing file
  - Use *Save As* to save the presentation to a new location
    - Example: saving to shared directory for use during class presentation
  - Close presentation

## Technology Communication Tools

### Presentations

23. Demonstrate proficiency in presenting multimedia projects.
- Open an existing multimedia project
  - Practice presentation skills for audience (use of microphone, posture, delivery skills)
  - Deliver presentation using projection device

### Communications Applications

24. Use telecommunications and other media to collaborate and interact with peers and other audiences, following appropriate laws and regulations.
- Example: on-line curriculum projects such as describing the environment

## Technology Research Tools

25. Use the Internet to access information.
26. Use appropriate (content specific) on-line resources to support learning and research.
- Utilize information from locally approved websites
  - Identify appropriate resources
  - Identify need for information
  - Search electronic card catalogs, AVL, electronic dictionaries, encyclopedias, and almanacs as appropriate
  - Search the Internet using developmentally appropriate search engines
27. Apply appropriate techniques for information retrieval.
- Key words
28. Identify useful information from a search.
- Relate search results to class or individual assignments
  - Evaluate for accuracy, appropriateness, and relevance
29. Take notes and paraphrase from a search.\*

## Technology Problem-Solving and Decision-Making Tools

30. Utilize technology for solving problems.

31. Discuss the use of technology as a resource for solving a variety of tasks.\*

\*Asterisk indicates a new skill.

Italicized words in  
special key names  
computer commands

# FIFTH GRADE

By the end of the fifth grade students will do the following:

## Basic Operations and Concepts

### General

1. Demonstrate optimal posture and position at the computer workstation.
  - Eyes level with the text on the monitor
  - Shoulders down, arms relaxed
  - Elbows level with keyboard
  - Feet and lower back supported
  - Fingers curved
  - Wrists slightly elevated
2. Use developmentally appropriate keyboard techniques.
  - Home row finger placement
  - Guidelines from typing program
3. Demonstrate appropriate use of special keys.
  - *Shift*, arrow, spacebar, *Backspace*, *Enter*
  - *Shift*, arrow, spacebar, *Backspace*, *Enter*
  - *Esc*, *Tab*
  - *Ctrl*, *Alt*, *Del*, *Ins*
  - *Home*, *End*, *Pgup*, and *Pgdn*

### Terminology

4. Utilize developmentally appropriate and accurate terminology to communicate effectively in a technological society.
  - Login (log-in)
  - Cursor
  - Icon
  - Scroll bar
  - Hour glass/busy
  - Word processing
  - Internet
  - Maximize
  - Network
  - Folder/directory
  - Open file
  - Minimize
  - Edit

\*Asterisk indicates a new skill.

Italicized words indicate special key names and computer commands.

- Hardware
- Software
- Copyright
- Electronic mail (e-mail)
- Software piracy
- License agreement
- Computer manual
- File
- Telecommunication
- Multimedia
- Desktop publishing\*

### **Computer Hardware**

5. Use a variety of media and technology resources for directed and independent learning activities across the curriculum.
6. Demonstrate correct procedures for opening, closing, and saving files using menu options and commands in appropriate grade/subject instructional software.
7. Identify computer hardware components and peripheral devices.
  - Keyboard and mouse
  - Monitor/screen
  - Printer
  - CD-ROM
  - Headphones and speakers
  - CPU
  - Hard drive
  - Floppy drive
  - Disk
  - File server
  - Digital camera
  - Scanner
8. Demonstrate appropriate use of hardware (input/output devices) and media.
  - Keyboard and mouse
  - Computer disks
  - CD-ROM
  - Off/on switches
  - Printer

## Operating Systems

9. Utilize an operating system efficiently.
- Start up and shut down--Turn hardware on/off independently
  - Operating system (Example: Windows) menu items and commands/options  
Examples: *File, Edit, View, Help*

## Networking

10. Practice responsible use of networked computer.
- Use log-in numbers/names
  - Use *Log Off*
  - Use *Shut Down*
  - Use network printers
  - Save files to individual home directories
  - Use multiple storage drives (A:\, G:\, and S:\)
  - Access on-line information for instruction
  - Access information from a folder/directory
  - Send and receive electronic mail \*

## File Management

11. Use basic computer management skills.
- Access and exit software
  - Manage files (save, retrieve)

## Basic Trouble Shooting

12. Describe correct procedures for troubleshooting simple hardware and software problems.  
Examples: adding paper, rebooting system, following classroom troubleshooting guidelines

# Social, Ethical, and Human Issues

## Information Ownership

13. Interpret copyright laws and policies with regard to ownership and use of electronic information.
- Respect the privacy of all users through the use of security rules
  - Interpret copyright laws
  - Interpret fair use policies\*

## Responsible Use

14. Demonstrate proper care of hardware (computer, peripherals, other equipment) and media.  
Examples: clean hands, clean work area, no magnets, drink, or food around computer
15. Discuss basic issues related to responsible use of technology systems and software and information including personal consequences of inappropriate use.  
Examples: use of login numbers/names, turning the computers on/off independently, accessing and exiting software
16. Identify and practice legal and ethical behaviors when using information and technology.
- Obey copyright laws
  - Use appropriate computer netiquette
  - Use Internet appropriately
  - Obey fair use policies\*
17. Understand and follow the MBS Technology Usage Policy.

## Implications of Technology Use

18. Identify areas in which technology has impacted human lives.  
Examples: transportation, communication, nutrition, sanitation, health care, entertainment
19. Discuss the advantages and disadvantages associated with common uses of technology in daily life.

## Technology Productivity Tools

20. Utilize productivity/multimedia tools and peripherals to support personal productivity, group collaboration, communication, and learning throughout the curriculum.
- Word processing software
  - Telecommunications (e-mail and Internet)
  - Presentation/authoring software
  - Web tools
  - Digital cameras
  - Scanners

## Word Processing

21. Explain uses and advantages of word processing.\*

22. Use appropriate techniques for producing word processing documents.

- Create and save a new document
  - Identify intended use
  - Use *New*
  - Use *Save* and *Save As*
- Open, view, print, and close documents
  - Use *Open*
  - Print entire file
  - Use *Print Preview*
  - Print selected parts
  - Use *Close*
- Format documents
  - Select font style and size
  - Space words
  - Indent
  - Justify text
  - Set tabs
  - Space lines
  - Change case
- Edit text
  - Change font style and size
  - Select text
  - Cut, copy, paste, and delete text
  - Use spell check
  - Use thesaurus\*
- Use desktop publishing techniques
  - Insert graphics
  - Size graphics
- Use word processor in real world context
  - Write stories or poems
  - Type reports
  - Generate letters

### **Multimedia Authoring**

23. Use a variety of media and technology resources to produce developmentally appropriate multimedia products across the curriculum.

Examples: autobiography, stories using word processor, brochures, newspapers, slide presentations, web pages, digital or video presentations

- Prepare an electronic presentation
  - Create and edit slides/screens
  - Add and edit text (font, size, color)
  - Create an electronic presentation using research in a real world context

- Create or change the look of presentation
  - Customize the background using color or picture
  - Arrange objects on the slide/screen
  - Insert graphics, clip art, digital pictures, paint, and/or original scanned artwork
  - Use Word Art to enhance titles or to create original art
- Customize
  - Add slide transitions to slide show
- Save
  - Use *Save* to store a presentation as a new and/or existing file
  - Use *Save As* to save the presentation to a new location
    - Example: saving to shared directory for use during class presentation
  - Close presentation

## Technology Communication Tools

### Presentations

24. Demonstrate proficiency in presenting multimedia projects.
- Open an existing multimedia project
  - Practice presentation skills for audience (use of microphone, posture, delivery skills)
  - Deliver presentation using projection device

### Communications Applications

25. Use telecommunications and other media to collaborate and interact with peers and other audiences, following appropriate laws and regulations.
- Example: on-line curriculum projects such as describing the environment

## Technology Research Tools

26. Use the Internet to access information.
27. Use appropriate (content specific) on-line resources to support learning and research.
- Utilize information from locally approved websites
  - Identify appropriate resources
  - Identify need for information
  - Search electronic card catalogs, AVL, electronic dictionaries, encyclopedias, and almanacs as appropriate
  - Search the Internet using developmentally appropriate search engines
  - Define search parameters\*
28. Apply appropriate techniques for information retrieval.
- Key words

29. Identify useful information from a search.
- Relate search results to class or individual assignments
  - Evaluate for accuracy, relevance, and appropriateness
30. Take notes and paraphrase from a search.
31. Cite electronic sources appropriately.\*

### **Technology Problem-Solving and Decision-Making Tools**

32. Utilize technology for solving problems.
33. Discuss the use of technology as a resource for solving a variety of tasks.
34. Select appropriate technology tools and resources to address a variety of tasks and problems.\*  
Examples: Internet portals, calculators, video, software

\*Asterisk indicates a new skill.

Italicized words indicate special key names and computer commands.

# SIXTH GRADE

By the end of the sixth grade students will do the following:

## Basic Operations and Concepts

### General

1. Demonstrate optimal posture and position at the computer workstation.
  - Eyes level with the text on the monitor
  - Shoulders down, arms relaxed
  - Elbows level with keyboard
  - Feet and lower back supported
  - Fingers curved
  - Wrists slightly elevated
2. Use developmentally appropriate keyboard techniques.
  - Home row finger placement
  - Guidelines from typing program
  - Beginning proficiency in technique, posture, and speed\*
3. Demonstrate appropriate use of special keys.
  - *Shift*, arrow, spacebar, *Backspace*, *Enter*
  - *Shift*, arrow, spacebar, *Backspace*, *Enter*
  - *Esc*, *Tab*
  - *Ctrl*, *Alt*, *Del*, *Ins*
  - *Home*, *End*, *Pgup*, and *Pgdn*

### Terminology

4. Utilize developmentally appropriate and accurate terminology to communicate effectively in a technological society.
  - Login (log-in)
  - Cursor
  - Icon
  - Scroll bar
  - Hour glass/busy
  - Word processing
  - Internet
  - Maximize
  - Network
  - Folder/directory
  - Open file

- Minimize
- Edit
- Hardware
- Software
- Copyright
- Electronic mail (e-mail)
- Software piracy
- License agreement
- Computer manual
- File
- Telecommunication
- Multimedia
- Desktop publishing
- Database\*
- Spreadsheet
- Boolean Search\*

### **Computer Hardware/Software**

5. Use a variety of media and technology resources for directed and independent learning activities across the curriculum.
6. Demonstrate correct procedures for opening, closing, and saving files using menu options and commands in appropriate grade/subject instructional software.
7. Identify computer hardware components and peripheral devices.
  - Keyboard and mouse
  - Monitor/screen
  - Printer
  - CD-ROM
  - Headphones and speakers
  - CPU
  - Hard drive
  - Floppy drive
  - Disk
  - File server
  - Digital camera
  - Scanner

## Operating Systems

8. Utilize an operating system efficiently.

- Start up and shut down--Turn hardware on/off independently
- Operating system (Example: Windows) menu items and commands/options  
Examples: *File, Edit, View, Help*
- Start button/start menu\*
- Taskbar, system tray\*

9. Identify the functions and advantages of computer productivity software.\*

- Word processing\*
- Presentation\*
- Telecommunications (e-mail, FAX, teleconferencing, video conferencing)\*
- Spreadsheet\*
- Database\*

## Networking

10. Practice responsible use of networked computer

- Use log-in numbers/names
- Use *Log Off*
- Use *Shut Down*
- Use network printers
- Save files to individual home directories
- Use multiple storage drives (A:\, G:\, and S:\)
- Access on-line information for instruction
- Access information from a folder/directory
- Send and receive electronic mail

## File Management

11. Use basic computer management skills.

- Access and exit software
- Manage files (save, retrieve)

## Basic Trouble Shooting

12. Describe correct procedures for troubleshooting simple hardware and software problems.  
Examples: adding paper, rebooting system, following classroom troubleshooting guidelines
13. Apply strategies for identifying and solving routine hardware and software problems that occur in everyday use.\*  
Examples: check plug, on/off switch, connections, video, and sound; reboot; use help sources

## Social, Ethical, and Human Issues

### Information Ownership

14. Interpret copyright laws and policies with regard to ownership and use of electronic information.
- Respect the privacy of all users through the use of security rules
  - Interpret copyright laws
  - Interpret fair use policies
  - Obtain permission to use electronic media sources/products\*
  - Determine considerations necessary to use electronic media sources/products\*  
Examples: fair use (educational and personal), software licensing
  - Explain consequences of copyright violations\*

### Responsible Use

15. Demonstrate proper care of hardware (computer, peripherals, other equipment) and media.  
Examples: clean hands, clean work area, no magnets, drink, or food around computer
16. Discuss basic issues related to responsible use of technology systems and software and information including personal consequences of inappropriate use.  
Examples: use of login numbers/names, turning the computers on/off independently, accessing and exiting software
17. Identify and practice legal and ethical behaviors when using information and technology.
- Obey copyright laws
  - Use appropriate computer netiquette
  - Use Internet appropriately
  - Obey fair use policies
18. Understand and follow the MBS Technology Usage Policy.
19. Explain consequences of the misuses of technology.\*  
Examples: detention, Saturday School, fines, suspension, loss of use
20. Evaluate the accuracy and appropriateness of electronic information.\*

21. Cite electronic sources properly.\*  
Examples: using MLA or APA style manuals
22. Identify unethical behaviors regarding use of technology.\*  
Examples: copyright violations, computer fraud, unauthorized use, computer hacking, software piracy, and virus dissemination

### **Implications of Technology Use**

23. Describe current changes and information technologies and the effect those changes have on the workplace and society\*
24. Analyze ways in which technology has influenced the course of history.\*  
Examples: revolutions in agriculture, manufacturing, medicine, warfare, transportation, communication

## **Technology Productivity Tools**

25. Utilize productivity/multimedia tools and peripherals to support personal productivity, group collaboration, communication, and learning throughout the curriculum.
  - Word processing software
  - Telecommunications (e-mail and Internet)
  - Presentation/authoring software
  - Web tools
  - Digital cameras
  - Scanners

### **Word Processing**

26. Explain the uses and advantages of word processing.
27. Use appropriate techniques for producing word processing documents.
  - Create and save a new document
    - Identify intended use
    - Use *New*
    - Use *Save* and *Save As*

- Open, view, print, and close documents
  - Use *Open*
  - Print entire file
  - Use *Print Preview*
  - Print selected parts
  - Print using various sizes of paper \*
  - Use *Close*
- Format documents
  - Select font style and size
  - Space words
  - Indent
  - Justify text
  - Set tabs
  - Space lines
  - Change case
  - Select page orientation\*
  - Set margins\*
- Edit text
  - Change font style and size
  - Select text
  - Cut, copy, paste, and delete text
  - Use spell check
  - Use thesaurus
  - Use *Find* and *Replace* features\*
- Use desktop publishing techniques
  - Insert graphics
  - Size graphics
  - Insert, modify, delete columns\*
- Use word processor in real world context
  - Write stories or poems
  - Type reports
  - Generate letters
  - Make brochures\*

### Spreadsheets\*

28. Identify examples of spreadsheets.\*

Examples: budgets, checkbooks, teacher grade book

29. Identify uses of spreadsheets.\*

Examples: discover patterns, track spending, calculate (add, subtract, multiply, divide) groups of numbers

**Databases\***

30. Identify examples of databases.\*

Examples: phone book, recipe book, Athena, Accelerated Reader list

31. Identify uses of databases.\*

Examples: manage data, search Athena for a book

**Multimedia Authoring**

32. Use a variety of media and technology resources to produce developmentally appropriate multimedia products across the curriculum.

Examples: autobiography, stories using word processor, brochures, newspapers, slide presentations, web pages, digital or video presentations

- Prepare an electronic presentation
  - Create and edit slides/screens
  - Add and edit text (font, size, color)
  - Create an electronic presentation using research in a real world context
- Create or change the look of presentation
  - Customize the background using color or picture
  - Arrange objects on the slide/screen
  - Insert graphics, clip art, digital pictures, paint, and/or original scanned artwork
  - Use Word Art to enhance titles or to create original art
- Customize
  - Add slide transitions to slide show
- Save
  - Use *Save* to store a presentation as a new and/or existing file
  - Use *Save As* to save the presentation to a new location
    - Example: saving to a shared directory for use during class presentations
  - Close presentation

**Technology Communication Tools****Presentations**

33. Demonstrate proficiency in presenting multimedia projects.

- Open an existing multimedia project
- Practice presentation skills for audience (use of microphone, posture, delivery skills)
- Deliver presentation using projection device

## Communications Applications

34. Use telecommunications and other media to collaborate and interact with peers and other audiences, following appropriate laws and regulations.  
Examples: on-line curriculum projects such as describing the environment, cultural exchange, discussions with experts, school broadcasts, discussion groups, pen pals

## Technology Research Tools

35. Use the Internet to access information.
36. Use appropriate (content-specific) on-line resources to support learning and research.
- Utilize information from locally approved websites
  - Identify appropriate resources
  - Identify need for information
  - Search electronic card catalogs, AVL, electronic dictionaries, encyclopedias, and almanacs as appropriate
  - Search the Internet using developmentally appropriate search engines
  - Define search parameters
37. Apply appropriate techniques for information retrieval.
- Key words
  - Boolean operators  
Examples: AND, NOT, +, -\*
38. Identify useful information from a search.
- Relate search results to class or individual assignments
  - Evaluate for accuracy, appropriateness, and relevance
  - Evaluate for comprehensiveness and bias\*
39. Take notes and paraphrase from a search.
40. Cite electronic sources appropriately for bibliography.

## Technology Problem-Solving and Decision-Making Tools

41. Utilize technology for solving problems.  
Examples: data, probability, and relationship analysis; science experimentation; expert opinion comparison
42. Discuss the use of technology as a resource for solving a variety of tasks.

43. Select appropriate technology tools and resources to address a variety of tasks and problems.  
Examples: Internet portals, calculators, video, software

44. Use appropriate tools and technology resources to resolve information conflicts by validating information through research and comparison of data.\*  
Example: defending a position on political or social issues

\*Asterisk indicates a new skill.

Italicized words indicate special key names and computer commands.

# SEVENTH GRADE

By the end of the seventh grade students will do the following:

## Basic Operations and Concepts

### Terminology

1. Utilize developmentally appropriate and accurate terminology to communicate effectively in a technological society.
  - Login (log-in)
  - Cursor
  - Icon
  - Scroll bar
  - Hour glass/busy
  - Word processing
  - Internet
  - Maximize
  - Network
  - Folder/directory
  - Open file
  - Minimize
  - Edit
  - Hardware
  - Software
  - Copyright
  - Electronic mail (e-mail)
  - Software piracy
  - License agreement
  - Computer manual
  - File
  - Telecommunication
  - Multimedia
  - Desktop publishing

- Database
- Spreadsheet
- Query\*
- Field\*
- Record\*
- Cell\*
- Column\*
- Row\*
- Formula\*
- Boolean search

### Computer Hardware/Software

2. Use a variety of media and technology resources for directed and independent learning activities across the curriculum.
3. Demonstrate correct procedures for opening, closing, and saving files using menu options and commands in appropriate grade/subject instructional software.
4. Identify computer hardware components and peripheral devices.
  - CPU
  - Hard drive
  - Floppy drive
  - Disk
  - File server
  - Digital camera
  - Scanner
  - RAM\*
5. Appraise computer hardware to determine software compatibility\*  
Examples: RAM, processing speed, hard drive, video card

### Operating Systems

6. Utilize an operating system efficiently.
  - Start up and shut down--Turn hardware on/off independently
  - Operating system (Example: Windows) menu items and commands/options  
Examples: *File, Edit, View, Help*
  - Start button/start menu
  - Taskbar, system tray
  - Control/Alt/Delete—Shut down and end tasks\*
7. Differentiate among operating systems.\*  
Examples: Windows 98, Windows 2000, Windows XP, Linux, Unix, OS10 or higher

8. Identify the functions and advantages of computer productivity software.

- Word processing
- Presentation
- Telecommunications
- Spreadsheet
- Database

### **Networking**

9. Practice responsible use of networked computer

- Use log-in numbers/names
- Use log off
- Use shut down
- Use network printers
- Save files to individual home directories
- Use multiple storage drives (A:\, G:\, and S:\)
- Access on-line information for instruction
- Access information from a folder/directory
- Send and receive electronic mail
- Set up and change user passwords \*
- Know the importance of password security \*

10. Assess the impact of networks on society. \*

### **File Management**

11. Use basic computer management skills.

- Access and exit software
- Manage files (save, retrieve)
- Organize files\*
- Use disk utilities (format, copy, delete, create, backup, save) \*

12. Identify advantages of creating an organized file structure. \*

13. Arrange an organized file structure. \*

14. Modify file structure. \*

15. Identify various storage and backup options. \*

Examples: floppy disks, CDRW, DVD, network folders

**Basic Trouble Shooting**

16. Describe correct procedures for troubleshooting simple hardware and software problems.
17. Apply strategies for identifying and solving routine hardware and software problems that occur in everyday use. \*
- Examples: check plug, on/off switch, connections, video, and sound; reboot; use help sources

## Social, Ethical, and Human Issues

**Information Ownership**

18. Interpret copyright laws and policies with regard to ownership and use of electronic information.
- Respect the privacy of all users through the use of security rules
  - Interpret copyright laws
  - Interpret fair use policies
  - Obtain permission to use electronic media sources/products
  - Determine considerations necessary to use electronic media sources/products  
Examples: fair use (educational and personal), software licensing
  - Explain consequences of copyright violations

**Responsible Use**

19. Demonstrate proper care of hardware (computer, peripherals, other equipment) and media.  
Examples: clean hands, clean work area, no magnets, drink, or food around computer
20. Discuss basic issues related responsible use of technology systems and software and information including personal consequences of inappropriate use.
21. Identify and practice legal and ethical behaviors when using information and technology.
- Obey copyright laws
  - Use appropriate computer netiquette
  - Use Internet appropriately
  - Obey fair use policies
22. Understand and follow the MBS Technology Usage Policy.
23. Explain consequences of the misuses of technology.
24. Evaluate the accuracy, appropriateness, relevance, comprehensiveness, and bias of electronic information.

25. Cite electronic sources properly.  
Examples: using MLA or APA style manuals
26. Identify unethical behaviors regarding use of technology.  
Examples: hacking, viruses, threats, unauthorized access, piracy
27. Recognize practices that are not in keeping with netiquette. \*  
Examples: slamming, spamming, flaming, screaming

### **Implications of Technology Use**

28. Describe current changes and information technologies and the effect those changes have on the workplace and society.
29. Analyze ways in which technology has influenced the course of history.  
Examples: revolutions in agriculture, manufacturing, medicine, warfare, transportation, communication
30. Evaluate the effect technology has on the workplace and society. \*  
Examples: improved communication, increased productivity
31. Explain types of tasks for which technology may be used in school, home, and business. \*
32. Identify factors that affect access to technology.  
Examples: socio-economic level, political climate, geographic location \*

### **Technology Productivity Tools**

33. Utilize productivity/multimedia tools and peripherals to support personal productivity, group collaboration, communication, and learning throughout the curriculum.
- Word processing software
  - Telecommunications (e-mail and Internet)
  - Presentation/authoring software
  - Web tools
  - Digital cameras
  - Scanners
  - Spreadsheet software \*
  - Database software \*

### **Word Processing**

34. Explain uses and advantages of word processing.

## 35. Use appropriate techniques for producing word processing documents.

- Create and save a new document
  - Identify intended use
  - Use *New*
  - Use *Save* and *Save As*
- Open, view, print, and close documents
  - Use *Open*
  - Print entire file
  - Use *Print Preview*
  - Print selected parts
  - Print using various sizes of paper
  - Use *Close*
- Format documents
  - Select font style and size
  - Space words
  - Indent
  - Justify text
  - Set tabs
  - Space lines
  - Change case
  - Select page orientation
  - Set margins
  - Use headers, footers and pagination \*
- Edit text
  - Change font style and size
  - Select text
  - Cut, copy, paste, and delete text
  - Use spell check
  - Use thesaurus
  - Use *Find* and *Replace* features
- Use desktop publishing techniques
  - Insert graphics
  - Size graphics
  - Insert, modify, delete columns
  - Create tables \*
- Use word processor in real world context
  - Write stories or poems
  - Type reports
  - Generate letters
  - Make brochures
  - Add entries to work cited \*

## Spreadsheets

36. Identify examples of spreadsheets.
37. Identify uses of spreadsheets.
38. Explain advantages of using spreadsheets. \*
39. Apply appropriate techniques for producing spreadsheets. \*
  - Create and save spreadsheets \*
    - Identify intended use \*
    - Specify data organization \*
    - Determine columns and rows \*
    - Set cell attributes \*
    - Create simple calculation formulas \*
    - Enter and edit data \*
  - Retrieve data \*
    - Sort data \*
    - Create chart(s) \*
  - Print and close spreadsheets \*
    - Print all \*
    - Print selection \*
    - Use *Close* \*
  - Edit data \*
    - Insert column or row \*
    - Delete column or row \*
    - Use fill down/across \*
    - Save updated spreadsheet \*
  - Generate graphs from spreadsheets \*
    - Determine and create appropriate type of graph \*

## Databases

40. Identify examples of databases.
41. Identify uses of databases.  
Examples: compile like information
42. Explain advantages of using databases. \*
43. Apply appropriate techniques for producing or manipulating databases. \*
  - Plan data structure \*
  - Create new and open existing database \*
  - Use *Save*, *Save as*, and *Close* \*

- Use print options\*  
Examples: preview, entire file, selected parts
- Name fields \*
- Set field attributes \*
- Enter data \*
- Edit data \*
- Search data\*
- Sort data \*
- Query data\*
- Create and print reports\*

### **Multimedia Authoring**

44. Explain uses, advantages, and options of multimedia authoring. \*
45. Use a variety of media and technology resources to produce developmentally appropriate multimedia products across the curriculum.  
Examples: autobiography, stories using word processor, brochures, newspapers, slide presentations, web pages, digital or video presentations
- Prepare an electronic presentation
    - Create and edit slides/screens
    - Add and edit text (font, size, color)
    - Create an electronic presentation using research in a real world context
  - Create or change the look of presentation
    - Customize the background using color or picture
    - Arrange objects on the slide/screen
    - Insert graphics, clip art, digital pictures, paint, and/or original scanned artwork
    - Use Word Art to enhance titles or to create original art
    - Cite all graphics--link where appropriate \*
    - Create a works cited screen or add to bottom of web page \*
  - Customize
    - Add slide transitions to slide show
    - Use sound to enhance presentation (Optional) \*
    - Place video in presentation (Optional) \*
    - Create slide layouts for tables and/or charts \*
    - Create a hyper-link to at least one website \*
    - Arrange slides/screens in a logical and appropriate order \*
    - Animate text and/or graphics to add impact (Optional) \*

- Save
  - Use *Save* to store a presentation as a new and/or existing file
  - Use *Save As* to save the presentation to a new location
    - Example: saving to shared directory for use during class presentation
  - Close presentation
  - Save a presentation as a web page \*

## Technology Communication Tools

### Presentations

46. Demonstrate proficiency in presenting multimedia projects.
- Open an existing multimedia project
  - Practice presentation skills for audience (use of microphone, posture, delivery skills)
  - Deliver presentation using projection device
  - Create notes for final presentation\*
47. Demonstrate proficiency in displaying digital information. \*
- Examples: web pages, video segments, publications, multimedia presentations

### Communications Applications

48. Use telecommunications and other media to collaborate and interact with peers and other audiences, following appropriate laws and regulations.
- Examples: on-line curriculum projects such as describing the environment, cultural exchange, discussions with experts, school broadcasts, discussion groups, pen pals
49. Explain uses and advantages of telecommunications. \*
50. Explain ways technology is used for transfer of information. \*
- Examples: e-mail, listserv, video conferencing, Internet
51. Demonstrate ways technology is used for transfer of information.\*
- E-mail\*
  - Internet\*

## Technology Research Tools

52. Use appropriate (content-specific) on-line resources to support learning and research.
- Utilize information from locally approved websites
  - Identify appropriate resources
  - Identify need for information

- Search electronic card catalogs, AVL, electronic dictionaries, encyclopedias, and almanacs as appropriate
- Search the Internet using developmentally appropriate search engines
- Define search parameters
- Produce research project incorporating information retrieved from at least two different types of sources \*

53. Apply appropriate techniques for information retrieval.

- Key words
- Boolean operators  
Examples: AND, NOT, +, -

54. Identify useful information from a search.

- Relate search results to class or individual assignment
- Evaluate for accuracy, appropriateness, and relevance
- Evaluate for comprehensiveness and bias
- Compare information from at least two sources \*
- Identify trends in data \*

55. Take notes and paraphrase from a search.

56. Cite electronic sources appropriately for bibliography.

### **Technology Problem-Solving and Decision-Making Tools**

57. Utilize technology for solving problems.

Examples: data, probability, and relationship analysis; science experiments; expert opinion comparisons

58. Select appropriate technology tools and resources to address a variety of tasks and problems.

Examples: Internet portals, calculators, video, software

59. Use appropriate tools and technology resources to resolve information conflicts by validating information through research and comparison of data.

Example: defending a position on political or social issues

60. Utilize technology for making data-driven decisions. \*

Examples: assembling a plan for purchasing a computer given a basic set of circumstances, making projections

\*Asterisk indicates a new skill.

Italicized words indicate special key names or computer commands.

# EIGHTH GRADE

By the end of the seventh grade students will do the following:

## Basic Operations and Concepts

### Terminology

1. Utilize developmentally appropriate and accurate terminology to communicate effectively in a technological society.
  - Login (log-in)
  - Cursor
  - Icon
  - Scroll bar
  - Hour glass/busy
  - Word processing
  - Internet
  - Maximize
  - Network
  - Folder/directory
  - Open file
  - Minimize
  - Edit
  - Hardware
  - Software
  - Copyright
  - Electronic mail (e-mail)
  - Software piracy
  - License agreement
  - Computer manual
  - File
  - Telecommunication
  - Multimedia
  - Desktop publishing

- Database
- Spreadsheet
- Query
- Field
- Record
- Cell
- Column
- Row
- Formula
- Boolean search

### Computer Hardware/Software

2. Use a variety of media and technology resources for directed and independent learning activities across the curriculum.
3. Demonstrate correct procedures for opening, closing, and saving files using menu options and commands in appropriate grade/subject instructional software.
4. Identify computer hardware components and peripheral devices.
  - CPU
  - Hard drive
  - Floppy drive
  - Disk
  - File server
  - Digital camera
  - Scanner
  - RAM
5. Appraise computer hardware to determine software compatibility  
Examples: RAM, processing speed, hard drive, video card

### Operating Systems

6. Utilize an operating system efficiently.
  - Start up and shut down--Turn hardware on/off independently
  - Operating system (Example: Windows) menu items and commands/options  
Examples: *File, Edit, View, Help*
  - Start button/start menu
  - Taskbar, system tray
  - Control/Alt/Delete—Shut down and end tasks
7. Differentiate among operating systems.  
Examples: Windows 98, Windows 2000, Windows XP, Linux, Unix, OS10 or higher

8. Identify the functions and advantages of computer productivity software.

- Word processing
- Presentation
- Telecommunications
- Spreadsheet
- Database

### **Networking**

9. Practice responsible use of networked computer.

- Use log-in numbers/names
- Use network printers
- Save files to individual home directories
- Use multiple storage drives (A:\, G:\, and S:\)
- Access on-line information for instruction
- Access information from a folder/directory
- Send and receive electronic mail
- Set up and change user passwords
- Know the importance of password security

10. Assess the impact of networks on society.

### **File Management**

11. Use basic computer management skills.

- Access and exit software
- Manage files (save, retrieve)
- Organize files
- Use disk utilities (format, copy, delete, create, backup, save)

12. Identify advantages of creating an organized file structure.

13. Arrange an organized file structure.

14. Modify file structure.

15. Identify various storage and backup options.

Examples: floppy disks, CDRW, DVD, network folders

### Basic Trouble Shooting

16. Describe correct procedures for troubleshooting simple hardware and software problems.
17. Apply strategies for identifying and solving routine hardware and software problems that occur in everyday use.  
Examples: check plug, on/off switch, connections, video, and sound; reboot; use help sources

## Social, Ethical, and Human Issues

### Information Ownership

18. Interpret copyright laws and policies with regard to ownership and use of electronic information.
  - Respect the privacy of all users through the use of security rules
  - Interpret copyright laws
  - Interpret fair use policies
  - Obtain permission to use electronic media sources/products
  - Determine considerations necessary to use electronic media sources/products  
Examples: fair use (educational and personal), software licensing
  - Explain consequences of copyright violations

### Responsible Use

19. Demonstrate proper care of hardware (computer, peripherals, other equipment) and media.  
Examples: clean hands, clean work area, no magnets, drink, or food around computer
20. Discuss basic issues related to responsible use of technology systems and software and information including personal consequences of appropriate use.
21. Identify and practice legal and ethical behaviors when using information and technology.
  - Obey copyright laws
  - Use appropriate computer netiquette
  - Use Internet appropriately
  - Obey fair use policies
22. Understand and follow the MBS Technology Usage Policy.
23. Explain consequences of the misuses of technology.
24. Evaluate the accuracy, appropriateness, relevance, comprehensiveness, and bias of electronic information.

25. Cite electronic sources properly.  
Examples: using MLA or APA style manuals
26. Identify unethical behaviors regarding use of technology.  
Examples: hacking, viruses, threats, unauthorized access, piracy
27. Recognize practices that are not in keeping with netiquette.  
Examples: slamming, spamming, flaming, screaming

### **Implications of Technology Use**

28. Describe current changes and information technologies and the effect those changes have on the workplace and society.
29. Analyze ways in which technology has influenced the course of history.  
Examples: revolutions in agriculture, manufacturing, medicine, warfare, transportation, communication
30. Evaluate the effect technology has on the workplace and society.  
Examples: improved communication, increased productivity
31. Explain types of tasks for which technology may be used in school, home, and business.
32. Identify factors that affect access to technology.  
Examples: socio-economic level, political climate, geographic location

### **Technology Productivity Tools**

33. Utilize productivity/multimedia tools and peripherals to support personal productivity, group collaboration, communication, and learning throughout the curriculum.
- Word processing software
  - Telecommunications (e-mail and Internet)
  - Presentation/authoring software
  - Web tools
  - Digital cameras
  - Scanners
  - Spreadsheet software
  - Database software

### **Word Processing**

34. Explain uses and advantages of word processing.

## 35. Use appropriate techniques for producing word processing documents.

- Create and save a new document
  - Identify intended use
  - Use *New*
  - Use *Save* and *Save As*
- Open, view, print, and close documents
  - Use *Open*
  - Print entire file
  - Use *Print Preview*
  - Print selected parts
  - Print on various sizes of paper
  - Use *Close*
- Format documents
  - Select font style and size
  - Space words
  - Indent
  - Justify text
  - Set tabs
  - Space lines
  - Change case
  - Select page orientation
  - Set margins
  - Use headers, footers and pagination
- Edit text
  - Change font style and size
  - Select text
  - Cut, copy, paste, and delete text
  - Use spell check
  - Use thesaurus
  - Use *Find* and *Replace* features
- Use desktop publishing techniques
  - Insert graphics
  - Size graphics
  - Insert, modify, delete columns
  - Create tables
- Use word processor in real world context
  - Write stories or poems
  - Type reports
  - Generate letters
  - Make brochures
  - Add entries to work cited

## Spreadsheets

36. Identify examples of spreadsheets.
37. Identify uses of spreadsheets.
38. Explain advantages of using spreadsheets.
39. Apply appropriate techniques for producing spreadsheets.
  - Create and save spreadsheets
    - Identify intended use
    - Specify data organization
    - Determine columns and rows
    - Set cell attributes
    - Create simple calculation formulas
    - Enter and edit data
  - Retrieve data
    - Sort data
    - Create chart(s)
  - Print and close spreadsheets
    - Print all
    - Print selection
    - Use *Close*
  - Edit data
    - Insert column or row
    - Delete column or row
    - Use fill down/across
    - Save updated spreadsheet
  - Generate graphs from spreadsheets
    - Determine and create appropriate type of graph

## Databases

40. Identify examples of databases.
41. Identify uses of databases.  
Examples: compile like information
42. Explain advantages of using databases.
43. Apply appropriate techniques for producing or manipulating databases.
  - Plan data structure
  - Create new and open existing database
  - Use *Save*, *Save as*, and *Close*

- Use print options  
Examples: preview, entire file, selected parts
- Name fields
- Set field attributes
- Enter data
- Edit data
- Search data
- Sort data
- Query data
- Create and print reports

### **Multimedia Authoring**

44. Explain uses, advantages, and options of multimedia authoring.
45. Use a variety of media and technology resources to produce developmentally appropriate multimedia products across the curriculum.  
Examples: autobiography, stories using word processor, brochures, newspapers, slide presentations, web pages, digital or video presentations
- Prepare an electronic presentation
    - Create and edit slides/screens
    - Add and edit text (font, size, color)
    - Create an electronic presentation using research in a real world context
    - Design a presentation using four or more forms of media\*
  - Create or change the look of presentation
    - Customize the background using color or picture
    - Arrange objects on the slide/screen
    - Insert graphics, clip art, digital pictures, paint, and/or original scanned artwork
    - Use Word Art to enhance titles or to create original art
    - Site all graphics-links where appropriate
    - Create a works cited screen or add to bottom of web page
  - Customize
    - Add slide transitions to slide show
    - Use sound to enhance presentation (Optional)
    - Place video in presentation (Optional)
    - Create slide layouts for tables and/or charts
    - Create a hyper-link to at least one website
    - Arrange slides/screens in a logical and appropriate order
    - Animate text and/or graphics to add impact (Optional)

- Save
  - Use *Save* to store a presentation as a new and/or existing file
  - Use *Save As* to save the presentation to a new location
    - Example: saving to shared directory for use during class presentation
  - Close presentation
  - Save a presentation as a web page

## Technology Communication Tools

### Presentations

46. Demonstrate proficiency in presenting multimedia projects.
- Open an existing multi-media project
  - Practice presentation skills for audience (use of microphone, posture, delivery skills)
  - Deliver presentation using projection device
  - Create notes for final presentation
47. Demonstrate proficiency in displaying digital information.  
Examples: web pages, video segments, publications, multimedia presentations

### Communications Applications

48. Use telecommunications and other media to collaborate and interact with peers and other audiences, following appropriate laws and regulations.  
Examples: on-line curriculum projects such as describing the environment, cultural exchange, discussions with experts, school broadcasts, discussion groups, pen pals
49. Explain uses and advantages of telecommunications.
50. Explain ways technology is used for transfer of information.  
Examples: e-mail, listserv, video conferencing, Internet
51. Demonstrate ways technology is used for transfer of information.
- E-mail
  - Internet

## Technology Research Tools

52. Use appropriate (content-specific) on-line resources to support learning and research.
- Utilize information from locally approved websites
  - Identify appropriate resources
  - Identify need for information
  - Search electronic card catalogs, AVL, electronic dictionaries, encyclopedias, and almanacs as appropriate
  - Search the Internet using developmentally appropriate search engines

- Define search parameters
- Produce research project incorporating information retrieved from at least two different types of sources

53. Apply appropriate techniques for information retrieval.

- Key words
- Boolean operators  
Examples: AND, NOT, +, -

54. Identify useful information from a search.

- Relate search results to class or individual assignment
- Evaluate for accuracy, appropriateness, and relevance
- Evaluate for comprehensiveness and bias
- Compare information from at least two sources
- Identify trends in data

55. Take notes and paraphrase from a search.

56. Cite electronic sources appropriately for bibliography.

## Technology Problem-Solving and Decision-Making Tools

57. Utilize technology for solving problems.

Examples: data, probability, and relationship analysis; science experiments; expert opinion comparisons

58. Select appropriate technology tools and resources to address a variety of tasks and problems.

Examples: Internet portals, calculators, video, software

59. Use appropriate tools and technology resources to resolve information conflicts by validating information through research and comparison of data.

Example: defending a position on political or social issues

60. Utilize technology for making data-driven decisions.

Examples: assembling a plan for purchasing a computer given a basic set of circumstances, making projections

\*Asterisk indicates a new skill.

Italicized words indicate special key names or computer commands.

# NINTH – TWELFTH GRADES

By the end of the ninth, tenth, eleventh, and twelfth grades, students will do the following:

## Basic Operations and Concepts

### Terminology

1. Utilize developmentally appropriate and accurate terminology to communicate effectively in a technological society.
  - Copyright
  - Software piracy
  - License agreement
  - Telecommunication
  - Multimedia
  - Desktop publishing
  - Database
  - Query
  - Field
  - Record
  - Spreadsheet
  - Cell
  - Column
  - Row
  - Formula
  - Boolean search

### Computer Hardware/Software

2. Use a variety of media and technology resources for directed and independent learning activities across the curriculum.
3. Demonstrate correct procedures for opening, closing, and saving files using menu options and commands in appropriate grade/subject instructional software.
4. Appraise computer hardware to determine software compatibility.  
Examples: RAM, processing speed, hard drive, video card

## Operating Systems

5. Utilize an operating system efficiently.
  - Operating system (Example: Windows) menu items and commands/options  
Examples: *File, Edit, View, Help*
  - Start button/start menu
  - Taskbar, system tray
  - Control/Alt/Delete—Shut down and end tasks
6. Differentiate among operating systems.  
Examples: Windows 98, Windows 2000, Windows XP, Linux, Unix, OS10 or higher
7. Identify the functions and advantages of computer productivity software.
  - Telecommunications
  - Spreadsheet
  - Database

## Networking

8. Practice responsible use of networked computer.
  - Use log-in numbers/names
  - Use network printers
  - Save files to individual home directories
  - Use multiple storage drives (A:\, G:\, and S:\)
  - Access on-line information for instruction
  - Access information from a folder/directory
  - Send and receive electronic mail
  - Set up and change user passwords
  - Know the importance of password security
9. Assess the impact of networks on society.

## File Management

10. Use basic computer management skills.
  - Access and exit software
  - Manage files (save, retrieve)
  - Organize files
  - Use disk utilities (format, copy, delete, create, backup, save)
11. Identify advantages of creating an organized file structure.
12. Arrange an organized file structure.

13. Modify file structure.

14. Identify various storage and backup options.

Examples: floppy disks, CDRW, DVD, network folders

### **Basic Trouble Shooting**

15. Describe correct procedures for troubleshooting simple hardware and software problems.

16. Apply strategies for identifying and solving routine hardware and software problems that occur in everyday use.

Examples: check plug, on/off switch, connections, video, and sound; reboot; use help sources

## **Social, Ethical, and Human Issues**

### **Information Ownership**

17. Interpret copyright laws and policies with regard to ownership and use of electronic information.

- Interpret copyright laws
- Interpret fair use policies
- Obtain permission to use electronic media sources/products
- Determine considerations necessary to use electronic media sources/products.  
Examples: fair use (educational and personal), software licensing
- Explain consequences of copyright violations

### **Responsible Use**

18. Demonstrate proper care of hardware (computer, peripherals, other equipment) and media.

Examples: clean hands, clean work area, no magnets, drink, or food around computer

19. Discuss basic issues related to responsible use of technology systems and software and information including personal consequences of inappropriate use.

20. Identify and practice legal and ethical behaviors when using information and technology.

- Obey copyright laws
- Obey fair use policies
- Use Internet appropriately
- Use appropriate computer netiquette

21. Understand and follow the MBS Technology Usage Policy.

22. Explain consequences of the misuses of technology.

23. Evaluate the accuracy, appropriateness, relevance, comprehensiveness, and bias of electronic information.
24. Cite electronic sources properly.  
Examples: using MLA or APA style manuals
25. Identify unethical behaviors regarding use of technology.  
Examples: hacking, viruses, threats, unauthorized access, piracy
26. Recognize practices that are not in keeping with netiquette.  
Examples: slamming, spamming, flaming, screaming

### **Implications of Technology Use**

27. Explain types of tasks for which technology may be used in school, home, and business.  
Examples: e-learning, e-commerce, telecommuting
28. Describe current changes in information technologies and the effect those changes have on the workplace and society.
29. Analyze ways in which technology has influenced the course of history.
30. Evaluate the effect technology has on the workplace and society.
31. Identify factors that affect access to technology.  
Examples: socio-economic level, political climate, geographic location

### **Technology Productivity Tools**

32. Utilize productivity/multimedia tools and peripherals to support personal productivity, group collaboration, communication, and learning throughout the curriculum.
  - Word processing software
  - Spreadsheet software
  - Database software
  - Telecommunications (e-mail and Internet)
  - Presentation/authoring software
  - Web tools
  - Digital cameras
  - Scanners

## Word Processing

33. Use appropriate techniques for producing word processing documents.

- Create and save a new document
  - Use *Save* and *Save As*
- Open, view, print, and close documents
  - Use *Print Preview*
  - Print selected parts
  - Print on various sizes of paper
- Format documents
  - Select font style and size
  - Space words
  - Indent
  - Justify text
  - Space lines
  - Select page orientation
  - Set margins
  - Set tabs
  - Use headers, footers and pagination
- Edit text
  - Select text
  - Change font style and size
  - Cut, copy, paste, and delete text
  - Use spell check
  - Use thesaurus
  - Use *Find* and *Replace* features
- Use desktop publishing techniques
  - Insert graphics
  - Size graphics
  - Insert, modify, delete columns
  - Create tables
- Use word processor in real world context
  - Write stories or poems
  - Type reports
  - Generate letters
  - Make brochures
  - Add entries to work cited
  - Create a resume \* (introduced in 10<sup>th</sup>)
  - Create a formal lab report for science (introduced in 11<sup>th</sup>)

## Spreadsheets

34. Identify examples of spreadsheets.

35. Explain advantages of using spreadsheets.
36. Apply appropriate techniques for producing spreadsheets.
- Create and save spreadsheets
    - Identify intended use
    - Specify data organization
    - Determine columns and rows
    - Set cell attributes
    - Create simple calculation formulas
    - Enter and edit data
  - Retrieve data
    - Sort data
    - Create chart(s)
  - Print and close spreadsheets
    - Print all
    - Print selection
    - Use *Close*
  - Edit data
    - Insert column or row
    - Delete column or row
    - Use fill down/across
    - Save updated spreadsheet
  - Generate graphs from spreadsheets
    - Determine and create appropriate type of graph
    - Incorporate graphs into word processing

## Databases

37. Identify examples of databases.
38. Identify uses of databases.  
Example: compile like information
39. Explain advantages of databases.
40. Apply appropriate techniques for producing or manipulating databases.
- Plan data structure
  - Create new and open existing database
  - Use *Save*, *Save as*, and *Close*
  - Use print options.  
Examples: preview, entire file, selected parts
  - Name fields

- Set field attributes
- Enter data
- Edit data
- Search data
- Sort data
- Query data
- Create and print reports \*
- Filter data \*
- Merge data \*

### **Multimedia Authoring**

41. Explain uses, advantages, and options of multimedia authoring.
42. Use a variety of media and technology resources to produce developmentally appropriate multimedia knowledge products across the curriculum.  
 Examples: autobiography, stories using word processor, brochures, newspapers, slide presentations, web pages, digital or video presentations
- Prepare an electronic presentation
    - Create and edit slides/screens
    - Add and edit text (font, size, color)
    - Design a presentation using four or more different forms of media
    - Create an electronic presentation using research in a real world context
  - Create or change the look of presentation
    - Customize the background using color or picture
    - Arrange objects on the slide/screen
    - Insert graphics, clip art, digital pictures, paint, and/or original scanned artwork
    - Use Word Art to enhance titles or to create original art
    - Cite all graphics – link where appropriate
    - Create a works cited screen or add to bottom of web page
  - Customize
    - Add slide transitions to slide show
    - Use sound to enhance presentation (Optional)
    - Place video in presentation (Optional)
    - Create slide layouts for tables and/or charts
    - Create a hyper-link to at least one website
    - Arrange slides/screens in a logical and appropriate order
    - Animate text and/or graphics to add impact (Optional)

- Save
  - Use *Save* to store a presentation as a new and/or existing file
  - Use *Save As* to save the presentation to a new location
    - Example: saving to shared directory for use during class presentation
  - Close presentation
  - Save a presentation as a web page

## Technology Communication Tools

### Presentations

43. Demonstrate proficiency in presenting multimedia projects.
- Open an existing multimedia project
  - Practice presentation skills for audience (use of microphone, posture, delivery skills)
  - Deliver presentation using projection device
  - Create notes for final presentation
44. Demonstrate proficiency in displaying digital information.  
Examples: web pages, video segments, publications, multimedia presentations

### Communications Applications

45. Use telecommunications and other media to collaborate and interact with peers and other audiences, following appropriate laws and regulations.  
Examples: on-line curriculum projects such as describing the environment, cultural exchange, discussions with experts, school broadcasts, discussion groups, pen pals
46. Explain ways technology is used for transfer of information.  
Examples: e-mail, listserv, video conferencing, Internet

## Technology Research Tools

47. Use appropriate (content-specific) on-line resources to support learning and research.
- Utilize information from locally approved websites
  - Identify appropriate resources
  - Identify a need for information
  - Search electronic card catalogs, AVL, electronic dictionaries, encyclopedias, and almanacs as appropriate
  - Search the Internet using developmentally appropriate search engines
  - Define search parameters
  - Produce research project incorporating information retrieved from at least two different types of sources

48. Apply appropriate techniques for information retrieval.

- Key words
- Boolean operators  
Examples: AND, NOT, +, -

49. Identify useful information from a search.

- Evaluate for accuracy, appropriateness, and relevance
- Evaluate for comprehensiveness and bias
- Compare information from at least two sources
- Identify trends in data

50. Take notes and paraphrase from a search.

51. Cite electronic sources appropriately for bibliography.

### **Technology Problem-Solving and Decision-Making Tools**

52. Utilize technology for solving problems.

53. Utilize technology for making data-driven decisions.

Examples: assembling a plan for purchasing a computer given a basic set of circumstances, making projections

54. Select appropriate technology tools and resources to address a variety of tasks and problems.

55. Use appropriate tools and technology resources to resolve information conflicts by validating information through research and comparison of data.

Example: defending a position on political or social issues

\*Asterisk indicates a new skill.

Italicized words indicate special key names or computer commands.