

**South Orangetown Central School
District**

5 YEAR TECHNOLOGY PLAN

June 17, 2002

Instructional Technology Committee

<u>Name</u>	<u>Position</u>
YuBong Ko	Teacher, TZHS
Roger Guccione	Assistant Principal
Nancy Pollack	Parent
Stephen Sherman	Teacher, TZHS
Jacob Tanenbaum.....	District Wide Technology Coordinator
Jane Sandbank.....	Assistant Superintendent for Curriculum
Annie Gerard.....	Parent
Michelle DiLoreto.....	Teaching Assistant
Melanie Kershaw	PTA President
Pat Pollack	Teacher, TZE
Shelley Stern	Teacher, TZE
Fran O'Connell.....	Teacher, CLE
Eileen Corn	Teacher, TZE
Rick Sarkar.....	Student, TZHS
Emanuel Kostakis	Director of Human Resources
Philip Kuperberg.....	Student, TZHS
Lois Parker Hennion	Library, TZHS
Tim Bohlke	Teacher, CLE
John Taktajian.....	Student, TZHS

Administrative Technology Committee

Debbie Rizzi.....	Human Resources
Beverly Pirnie	Data
Joan Tinger.....	Buildings and Grounds
Pat Gerard	Business
Lillian Stuercke.....	District Clerk
Lillian Rinchera	SOMS
Marianne Zarcadoolas.....	SOMS
Karen Swift	Special Education
Manny Kostakis	Special Education
Lynn Trager	TZHS
Sheila Silverman.....	TZHS
Jane Sandbank.....	ASI
Ann Vaccaro-Teich.....	Business
Carol DiMeglio	Business
Tim Bohlke	CLE
Jacob Tanenbaum.....	Technology

EXECUTIVE SUMMARY

As the original five-year plan comes to a close the Board of Education, the superintendent and others within the South Orangetown School community recognized the need to assess, review and develop a second Long Term Technology Plan.

Our teachers must be able to prepare students to live productive and fulfilling lives in an era where information is doubling, industry is demanding that workers learn new technological skills, and competition is no longer national but global. Given the challenges that our students will face as they graduate from Tappan Zee High School, we must continue to effectively integrate technology into our educational system.

The Board has set as one of the district's major priorities, review and analyze the integration of instructional software and technology Pre-K through grade 12, as an essential element in curriculum and instruction. Additionally, the board has asked us to review and analyze our IT systems in order to maximize organizational productivity in the cost effective way. To best meet the district's priorities, two committees were established: An Instructional Technology Committee and an Administrative Technology Committee. This report includes work from both committees. The Instructional Committee has updated the 5 year plan as originally written in 1998. The Administrative Technology Committee has added materials relating to areas primarily of concern to administration, such as student information, communication between systems, and the overall operational efficiency of our administrative software. The Administrative Technology Committee is new to the district planning process.

During the course of general discussion, the Technology team came up with these questions that the team believes need to be addressed:

- Curriculum:
 - Part of the teams' charge was to recommend changes in computer technology-supported curriculum.
 - The following need to be investigated more fully related to technology and information literacy:
 - What should every student understand, know and be able to do?
 - How should the district deliver instruction in technology?
 - Where and how do we teach computer technology so that we know all students are on a level playing field?
 - In order to reach the standards, how will we assess technology skills?
 - Should a computer-based project be a graduation requirement?

- General Points the committee addressed include:
 - Teaching of computer technology
 - Integration of computer technology
 - Assessment of computer technology

Curriculum maps were created in an attempt to standardize the instruction. Instructional technology throughout the district is to insure that every student receives equitable instruction.

VISION

The world is rapidly changing and students must be educated to adapt, respond and flourish in this dynamic environment. All appropriate tools should be utilized to advance student learning and to achieve excellence in education. The learner's ability to apply certain technologies must be considered part of the "toolbox."

Technology is, not only a tool, but also a discipline to be taught and learned. Part of the educational mission should be to prepare students to be successful citizens of a changing landscape that will increasingly rely on technological solutions to problem solving and to meeting the challenges in everyday life of an information and technologically driven global community.

With this mission in mind, the school community must explore, evaluate and incorporate, on a continuing basis, those technologies that are found to support, enhance and stimulate these goals.

GOALS

1. Use technology to further the educational plan of the district in order to improve the quality of teaching and learning.
2. Make technology resources available to the whole community, stimulate lifelong learning and maximize the utilization of technology resources.
3. Equip teachers to use technology to enhance the learning process and contribute to a stimulating learning environment.
4. Commit resources to acquire and support the technology infrastructure necessary for the implementation of the district's goals.
5. Advance teachers' technological competencies and provide continual professional development.
6. Teach responsible use of technology and explore with the staff and the students the legal, moral and ethical implications of its use.
7. Continually explore ways to use technology to encourage teachers to customize the curricula while maintaining the required standards.
8. Reject technology that does not further the goals and visions of the community.
9. Promote the understanding and teaching of technology as a discipline as well as its use as a tool and build such understanding into the curriculum from the earliest practical point.
10. Create a standing committee comprised of teachers, students, administrators, parents and community members to explore existing and emerging technologies and curricula and evaluate their relevance to the district.

TECHNOLOGY INFRASTRUCTURE

Current Configuration

- 3 or 4 (grade 3 only) computers in each elementary school classroom
- 1 in each 6 - 12 classroom
- Labs throughout the district as follows:
 - TZE Half a lab (12 computers)
 - CLE 1 full lab
 - SOMS 3 full labs
 - TZHS 3 full labs
- Each library is equipped with computer clusters for student use as well (the TZE library cluster is currently combined with the lab).

All computers are Dell IBM compatible computers with Windows 98 Special Edition.

- Office 2000 on every computer in the district
- Educational software available for all age groups.
- High speed access to the world wide web from every classroom in every school.

Infrastructure Recommendations

- Continue the commitment to maintaining up-to date computer equipment district wide.
- Continue upgrades to the high speed network
- Upgrade the existing lab in TZE to a full lab
- Provide more lab space in TZHS
- Automate the libraries in TZE and WOS
- Consider options to bring more computer equipment into classroom district wide
- Make presentation systems available in each classroom K-12
- Continue to monitor distance learning technology
- Continue to monitor electronic dissemination of classroom materials

Staffing Recommendations

- District Wide Coordinator (current)
- District Wide Technicians (current)
- District Wide Data Manger (2002-2003)

- Resource Teachers
 - WOS.....0.5 (current)
 - TZE1.0 (0.5 current)
 - CLE.....1.0 (current)
 - SOMS.....1.0
 - TZHS.....1.0

- Teacher Assistants
 - CLE1.0 (current)
 - SOMS.....1.0 (current)
 - TZHS.....1.0 (current)

Space Needs in Future:

Server rooms should be established in buildings district wide to protect the investment we have made in network infrastructure.

Lab space should be increased district wide. Wireless options may be investigated.

Additional Recommendations:

Use tri-states evaluation model as a vehicle to analyze to our use of technology.

TECHNOLOGY COMMITTEE RECOMMENDATIONS:

The following are summary recommendations by category:

Communications:

A portion of the school district website should be specifically geared for students.

The district should consider more electronic options for communication with parents. These are often more convenient and less expensive than traditional paper.

As a part of the above, the district may need to consider ways to improve the flow of information around the district.

The district should study options for the posting or emailing of homework assignments. This should be connected to the student management system in such a way that teachers will be able to enter grades and assignments one time only.

As a part of this initiative we may be able to offer oversight of amounts of assigned work for students on each given day.

Community Access Committee:

Access via the web to curriculum area resources would be very helpful. This would provide a resource to both students and community members interested in using the computer for communication with the school. Based upon this, our goal should be to establish and maintain a students' area of the website for quick access to school related materials.

This should include

- Access to subscription databases with instructions on home use
- Links to homework help
- Links to teacher websites
- Links to other web-based resources
- Links to on-line books and literature resources

Curriculum:

The curriculum committee recommends that we consider exit projects in both the Middle School and the High School for both instruction and assessment of technology goals in

the sixth through the twelfth grades. The entire K-12 curriculum mapped by this committee is available as Appendix A.

Resources:

The Resource Committee was created in order to investigate ways in which teachers, students and community members can better access information on the computer. Our committee feels that one of the most important ways to reach our learning community is by providing them with current, accurate, and useful resources. In order to provide this, some long-term goals have been developed.

Our committee feels that it is very important that each individual building take on an active role in providing current, accurate and useful resources. Therefore, it is our recommendation that the individual school web sites be looked at by each building. The web site information that is on each building site needs to be constantly revisited, and updated. We think that there should be a person responsible for doing this at each building level. Curriculum changes reflect changes in resources. These resources that are listed on the school building's site should be ever changing and fluid, according to the needs of the students, and the needs of the community. They should also reflect the changes that occur with curriculum.

We also feel that the current list of sites might be obsolete. In order to address this, each building should go through the sites, and determine which ones should no longer appear. This will provide the students, teachers, and parents a more condensed and user-friendly list of sites.

Our committee further believes that we should work with the other committees, instead of as a standing committee on our own. We feel that the resources that are used in South Orangetown fall under the responsibilities/recommendations of the other technology committees. Therefore, our recommendation would be to divide our committee up, and work with the other committees.

The Professional Development Subcommittee

Process Overview:

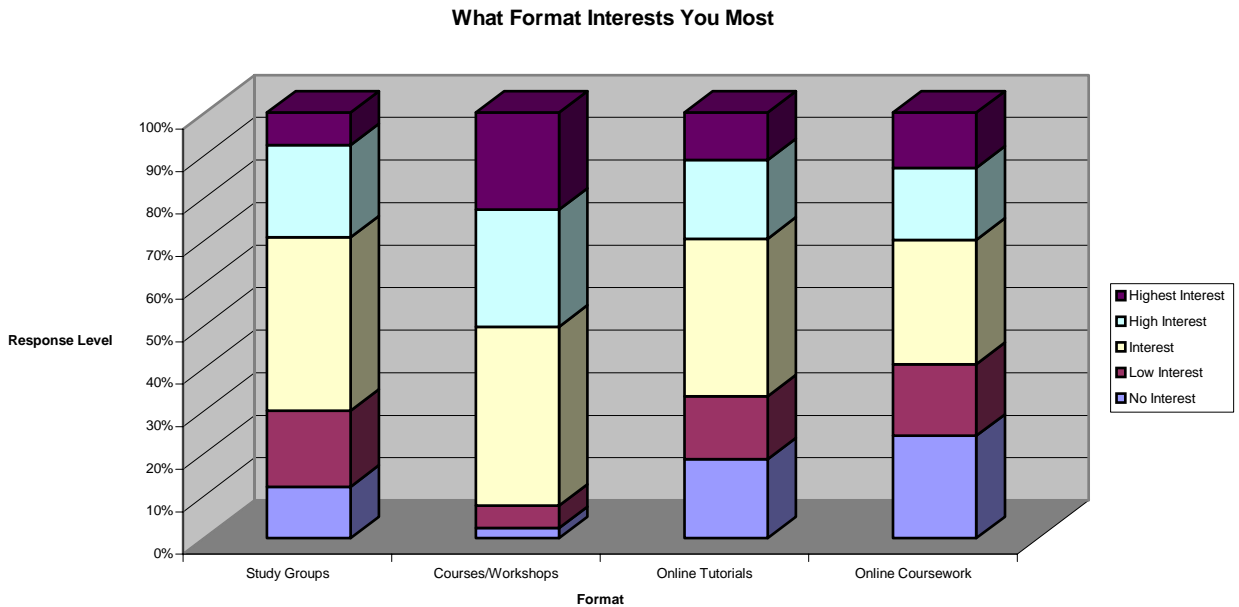
The Professional Development Subcommittee surveyed the entire staff on their Professional Development needs. The survey was constructed by the subcommittee using models from other districts and sources. During the weeks of March 11 and March 18, 2002, staff was able to take the survey on-line or on paper. Staff were asked to take the survey on-line in order to facilitate the analysis of the data. To accomplish this we used the web-based service www.surveymonkey.com. 186 staff across the district completed our survey. The entire survey and the results are available as Appendix B. Although the

survey was concerned with Professional Development across the entire district, in this document we will consider only technology related topics.

Result Summary:

Format:

Although the most convenient time for training was after school for most staff, many of our respondents clearly indicated that times outside of the school day were difficult for a variety of reasons. More exploration of on-line course formats and tutorials is warranted. This would allow staff to complete coursework at any convenient time. In fact, 59% of our survey respondents indicated that they would be interested in taking an on-line course.



Topics of Interest:

Staff indicated that interest was high for training in the following software and systems

- MS Office Productivity Tools:
 - Word
 - Publisher
 - Powerpoint

- Internet Topics
 - Electronic Libraries

- Using the Internet
- Web Design
- Web-Quest
- Other Topics
 - Multimedia Classroom Applications
 - Navigating the SOCSD Network

Topics of Experience:

It is significant that the faculty did not rate, as a body, their experience high in any technology topic surveyed. Although interest is high, and the staff is committed, there is work that needs to be done. The majority of staff did rate their experience as medium or high in the following areas:

- Using the internet as a classroom resource
- Navigating the SOCSD network
- Microsoft Word
- Integrating technology into the classroom
- PowerPoint
- Using Online Databases

In the remaining 11 topics surveyed, the majority of staff rated their own experience as low. Microsoft Word was the greatest reported level of experience district wide, with 48% of the staff rating their own knowledge level as high.

More Specific Results:

Secondary:

Secondary differed from primary in that responses indicate a higher level of interest in electronic grading and web-quests

Primary

Primary differed from secondary in that the overall level of interest in the technology topics specifically surveyed was lower. The one exception seems to be the Web, which continues to be a topic of great importance to all staff. This indicates a need to look beyond the software titles we surveyed towards software specifically geared for younger children. This will be an area of concentration as we look at software purchases for the next few years.

Plan of Action:

The committee recommends that we consider workshops in the technology topics of highest interest outlined above. The workshops should take place after school, during superintendent's conference days and on-line. Monies have been set aside for the development of on-line tutorials as well. In addition, care should be taken in the choosing of software in the lower grades to meet the unique needs of younger students.

Administrative Technology Committee Recommendations:

The Administrative Technology committee completed needs assessments in both the areas of Finance, Human Resources and Student Management. As a result of this process, the committee has recommended the adoption of Finance Manager 2000 for both the Business Office and the Human Resource Department. This will allow for the interconnection of the two departments as well as remote purchasing and staff attendance.

The Committee is in the process of the final selection of a Student Management Solution that will accommodate the needs of the entire district community.

Appendix A:

South Orangetown Central School District Technology Curriculum

A Note on the Curriculum:

The following maps represent the manner in which technology is integrated into the curriculum district wide. Sample activities are intended to demonstrate ways in which technology may be used to enhance learning. Students' work is expected to vary in both content and sophistication as they increase in age.

Curriculum Maps for K through 2nd Grades

(1) Essential Question:

How can we work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom?

Standards:

Children will demonstrate the ability to work in teams on projects in the classroom, or at home involving technology.

Children will email for information for communication with peers, family members or others. Children will work in pairs cooperatively

Sample Activities:

Teams of students research
Adopt a Class e-pal projects
Student and Parent epal projects

Software Needed:

Email Licenses
Internet Access

Hardware Needed:

Complete Lab setup in TZE to afford each child the opportunity to work on a computer.

Skills Needed:

General Technology Competencies:

- Use proper vocabulary and terminology for equipment
- Model the appropriate maintenance, care and operation of various technologies
- Understand the basics of operating a computer
- Demonstrate knowledge of keyboard
- Demonstrate basic 10 finger keyboarding and input skills for increased effectiveness and efficiency
- Identify and troubleshoot minor technical problems
- Retrieve and save files to appropriate locations
- Work with other students and/or teachers and experts via distance learning technology
- Use simulation software for content area work

Word Processing:

- Enter and edit text
- Copy, cut, paste and move text, search and replace text
- Format text and modify style

Introduced: 2

Continued:

Mastered: 2

Assessment: Observation, product, demonstration.

(2) Essential Question:

How can we use input devices to successfully operate computers and other age appropriate technologies?

Standards:

Students will use two hands when typing on the computer.
Children will use mouse to select and operate programs

Sample Activities:

Keyboard woman and other events and activities that stress using both hands on the keyboard

Simple Multimedia show with 2 slides.

Kids Keys and other software - based activities that stress – Double click, drag, single click.

Hardware Needed:

A full lab with computer for every child – opportunities for kids to sit at a computer and be directed to find letters to type.

Software Needed:

Kid keys and Powerpoint.

Skills Needed:

Word Processing:

- Enter and edit text

General Technology Competencies:

- Use proper vocabulary and terminology for equipment
- Understand the basics of operating a computer
- Demonstrate knowledge of keyboard
- Demonstrate basic 10 finger keyboarding and input skills for increased effectiveness and efficiency

Introduced: K

Continued: 1, 2

Mastered: See 3-5 maps

Assessment: Observation, product, demonstration

(3) Essential Question:

How can we use a variety of media and technology resources for directed and independent learning activities?

Standards:

Students will be able to access different types of information on a given topic. Students will demonstrate an ability to take and work with digital photos and recorded sound.

Sample Activities:

PowerPoint or other multimedia authoring system
Reading Journey Many places friendly faces
Internet browse with class

Hardware Needed:

Microphones digital cameras

Skills Needed:

Graphics Programs:

- Create graphic elements using paint brushes, pallets and tables
- Modify graphics and manipulate graphics
- Import and export graphic elements

Desktop Publishing:

- Input text and graphics

Multimedia Publishing:

- Input text and graphics
- Design and modify layouts
- Incorporate audio and video
- Create multimedia in a variety of formats including web based, slide shows and kiosk displays

Electronic Research:

- Read, use and browse websites
- Demonstrate understanding of ethical, legal and moral implications of uses of material

Introduced: K

Continued: 1, 2

Mastered: See 3-5 maps

(4) Essential Question:

How can we use developmentally appropriate multimedia resources to support our own learning?

Sample Activities:

Children will create slides for a slideshow, to culminate or summarize science and social studies units using sound, photographs and drawings.

Hardware Needed:

A full lab with computer for each child.

Software Needed:

Kid Pix Studio

Powerpoint or other multimedia authoring system.

Web and other multimedia tools

Skills Needed:

Multimedia Publishing:

- Input text and graphics
- Design and modify layouts
- Incorporate audio and video
- Create multimedia in a variety of formats including web based, slide shows and kiosk displays

Graphics Programs:

- Create graphic elements using paint brushes, pallets and tables
- Modify graphics and manipulate graphics

Desktop Publishing:

- Input text and graphics

General Technology Competencies:

- Use proper vocabulary and terminology for equipment
- Model the appropriate maintenance, care and operation of various technologies
- Understand the basics of operating a computer
- Demonstrate knowledge of keyboard
- Demonstrate basic 10 finger keyboarding and input skills for increased effectiveness and efficiency
- Identify and troubleshoot minor technical problems
- Integrate two or more technologies to produce multi-media products (e.g. digital camera, computer, video cassette recorder, large monitor, etc.)

Introduced: 2

Continued:

Mastered:

(5) Essential Question:

How can students demonstrate positive social and ethical behaviors when using technology?

Standards:

Children will use the Internet safely,
Students will never reveal personal information while using the web
Children will critically read websites demonstrating an understanding of the idea that not all information they read is true.
Children will adhere to classroom rules.

Sample Activities:

Browse the internet with teachers.
Class discussions on internet safety
Use children's search engines at all times.

Hardware Needed:

Computers and web connections for all students.

Software Needed:

Yahooligans
Safety rules

Skills Needed:

General Technology Competencies:

- 0 Use proper vocabulary and terminology for equipment
- 0 Model the appropriate maintenance, care and operation of various technologies
- 0 Understand the basics of operating a computer

Electronic Research:

- 0 Read, use and browse websites
- 0 Demonstrate understanding of ethical, legal and moral implications of uses of material

Introduced: K

Continued: 1

Mastered: 2

Assessment: Observation, project/product

(6) Essential Question:

What behavior constitutes responsible use of technology systems and software?

Standards:

Students will handle floppy disks and Compact discs in correct ways.
Students will handle computer hardware in appropriate ways.

Sample Activities:

Beginning of the year rules

Skills Needed:

General Technology Competencies:

- Use proper vocabulary and terminology for equipment
- Model the appropriate maintenance, care and operation of various technologies
- Identify and troubleshoot minor technical problems

Introduced: K
Continued: 1
Mastered: 2
Assessment: Observation

(7) Essential Question:

How can we create developmentally appropriate multimedia products with support from teachers, family members or student partners?

Standards:

Children will browse multi-media presentations and multimedia websites
Students will view presentations and learn to use as them as sources of information

Sample Activities:

Browsing content area websites found or created by teachers.
Browse multimedia presentations found or created by teachers.

Hardware Needed:

Computers connected to the World Wide Web for each student.
Large Screen Monitors

Software Needed:

Web browser
K.P. Studio
Multimedia authoring system

Skills Needed:

Graphics Programs:

- Create graphic elements using paint brushes, pallets and tables
- Modify graphics and manipulate graphics

Desktop Publishing:

- Input text and graphics

Multimedia Publishing:

- Input text and graphics
- Design and modify layouts
- Incorporate audio and video

Electronic Research:

- Read, use and browse websites
- Demonstrate understanding of ethical, legal and moral implications of uses of material

General Technology Competencies:

- Use proper vocabulary and terminology for equipment
- Model the appropriate maintenance, care and operation of various technologies
- Understand the basics of operating a computer
- Demonstrate knowledge of keyboard
- Demonstrate basic 10 finger keyboarding and input skills for increased effectiveness and efficiency
- Work with other students and/or teachers and experts via distance learning technology

Introduced: K

Continued: 1

Mastered: 2

(8) Essential Question:

How can we use age appropriate technology resources for the illustration of thoughts, ideas, and stories?

Standards:

Students will create books, reports, stories, poems and presentations (with teacher support)

Sample Activities:

Students will Produce Multimedia presentations with class where each student or group produces a single slide and the teacher brings the work together as a presentation.

Students will publish storybooks on the computer.

Hardware Needed:

Lab with a computer for each child
Large Screen Monitors
Scanners

Software Needed:

Storybook Weaver
Kid Pix Studio
Multimedia authoring system

Skills Needed:

Graphics Programs:

- Create graphic elements using paint brushes, pallets and tables
- Modify graphics and manipulate graphics

Desktop Publishing:

- Input text and graphics

Multimedia Publishing:

- Input text and graphics
- Design and modify layouts
- Incorporate audio and video

Electronic Research:

- Read, use and browse websites
- Demonstrate understanding of ethical, legal and moral implications of uses of material

General Technology Competencies:

- Use proper vocabulary and terminology for equipment
- Model the appropriate maintenance, care and operation of various technologies
- Understand the basics of operating a computer
- Demonstrate knowledge of keyboard
- Demonstrate basic 10 finger keyboarding and input skills for increased effectiveness and efficiency
- Work with other students and/or teachers and experts via distance learning technology

Introduced: K**Continued:** 1, 2**Mastered:****Assessment:** Observation**K** – Students will produce**1** – Students will produce pictures and**2** – Students will produce power point slides and stories

(9) Essential Question:

What are the common uses of technology in daily life and advantages and disadvantages those uses provide?

Standards:

Students will learn that computers are found in many places in daily life
Students will demonstrate awareness of the pace of change in technology.
Students will list the advantages and disadvantages brought by new technology.

Sample Activities:

Homework – find things at home that contain computers
Class Discussion.

Skills Needed:

Electronic Research:

- Demonstrate understanding of ethical, legal and moral implications of uses of material

General Technology Competencies:

- Use proper vocabulary and terminology for equipment
- Model the appropriate maintenance, care and operation of various technologies
- Understand the basics of operating a computer
- Identify and troubleshoot minor technical problems
- Work with other students and/or teachers and experts via distance learning technology

Introduced: K, 1

Continued: 2

Mastered:

Curriculum Maps for 3rd through 5th Grade

(1) Essential Question:

How can we use general-purpose productivity tools and peripherals to support personal productivity, to remediate skill deficits, and to facilitate learning throughout the curriculum.

Standards:

Students will use the MS Office Suite to complete and enhance classroom assignments.

Sample Activities:

Word Processing,
Multimedia Presentations,
Creating Newsletters and Graphs.

Software Needed:

MS Office
Scanning Software.

Hardware Needed:

Large Screen Monitors, Projectors,
Computer Lab,
Classroom Computer Pods, Scanner

Skills Needed:

General Technology Competencies:

- Use proper vocabulary and terminology for equipment
- Model the appropriate maintenance, care and operation of various technologies
- Understand the basics of operating a computer
- Demonstrate knowledge of keyboard
- Demonstrate basic 10 finger keyboarding and input skills for increased effectiveness and efficiency

Word Processing:

- Create a new document and name a file
- Enter and edit text
- Open, close and save documents and print text
- Copy, cut, paste and move text, search and replace text
- Format text and modify style

- Incorporate graphics
- Use embedded tools such as spell check and thesaurus
- Set tabs, indents, margins, line spacing, paper size and orientation

Desktop Publishing:

- Input text and graphics
- Design and modify layouts
- Print variety of publications
- Import and export data, video and audio

Multimedia Publishing:

- Input text and graphics
- Design and modify layouts
- Incorporate audio and video
- Incorporate both internal and external hyperlinks
- Create linear and non-linear presentation structures
- Create multimedia in a variety of formats including web based, slide shows and kiosk displays

Keyboarding: 25 words per minute with 10 fingering

Introduced: 3rd Grade

Continued: 4th Grade

Mastered: 5th Grade

(2) Essential Question:

How can we use various technology tools (e.g., multimedia authoring, presentation, web tools, digital cameras, scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom.

Standards:

Students will use the MS Office Suite to complete and enhance classroom assignments.

Sample Activities:

Student and Class Presentations.
 Word Processing,
 Multimedia Presentations,
 Creating Newsletters and Graphs.
 Manipulating Internet graphics and sounds.

Software Needed:

Productivity Package
Scanning Software
Internet Browser
Audio/Video
Recording and Editing software.

Hardware Needed:

Large Screen Monitors
Projectors
Computer Lab
Classroom Computer Pods, Scanner

Skills Needed:

General Technology Competencies:

- Use proper vocabulary and terminology for equipment
- Model the appropriate maintenance, care and operation of various technologies
- Understand the basics of operating a computer
- Demonstrate knowledge of keyboard
- Demonstrate basic 10 finger keyboarding and input skills for increased effectiveness and efficiency

Word Processing:

- Create a new document and name a file
- Enter and edit text
- Open, close and save documents and print text
- Copy, cut, paste and move text, search and replace text
- Format text and modify style
- Incorporate graphics
- Use embedded tools such as spell check and thesaurus
- Set tabs, indents, margins, line spacing, paper size and orientation

Desktop Publishing:

- Input text and graphics
- Design and modify layouts
- Print variety of publications
- Import and export data, video and audio

Multimedia Publishing:

- Input text and graphics
- Design and modify layouts
- Incorporate audio and video
- Incorporate both internal and external hyperlinks
- Create linear and non-linear presentation structures

- Create multimedia in a variety of formats including web based, slide shows and kiosk displays

Spreadsheet:

- Recognize and navigate through a spreadsheet
- Enter and edit information
- Identify rows and columns, move between cells
- Use labels and values
- Sort and arrange by rows and columns
- Create graphs and charts from spreadsheet data
- Use built in mathematical functions
- Import and export data
- Build a formula using operations and references (both relative and absolute)
- Make changes to a formula
- Create original formulas
- Manipulate charts and graphics

Graphics Program:

- Create graphic elements using paint brushes, pallets and tables
- Modify graphics and manipulate graphics
- Import and export graphic elements
- Edit and manipulate media content

Electronic Research:

- Read, use and browse websites
- Evaluate and search critically read websites both in terms of content and source
- Use monitored lists and search tools (Yahooligans)
- Demonstrate understanding of ethical, legal and moral implications of uses of material

Introduced: 3rd Grade

Continued: 4th Grade

Mastered: 5th Grade

Assessment: Word Processor with graphics

(3) Essential Question:

How can we use telecommunication efficiently and effectively to access remote information and communicate with others in support of direct and independent learning and for pursuit of personal interests.

Standards:

Students will be able to search and browse the web and e-mail.

Sample Activities:

E-mail past teachers, other classes.

Software Needed:

First Class
Internet Browser

Hardware Needed:

Large Screen Monitors, Projectors,
Computer Lab
Classroom Computer Pods, Scanner

Skills Needed:

General Technology Competencies:

- Use proper vocabulary and terminology for equipment
- Model the appropriate maintenance, care and operation of various technologies
- Understand the basics of operating a computer
- Demonstrate knowledge of keyboard
- Demonstrate basic 10 finger keyboarding and input skills for increased effectiveness and efficiency
- Retrieve and save files to appropriate locations
- Access and use the network using a personal password
- Paginate, set headers and footers, page numbers, use special keys and functions
- Understand the basics of how a computer operates
- Write a simple 10 line computer program

Word Processing:

- Create a new document and name a file
- Enter and edit text
- Open, close and save documents and print text
- Copy, cut, paste and move text, search and replace text
- Format text and modify style
- Incorporate graphics
- Use embedded tools such as spell check and thesaurus
- Set tabs, indents, margins, line spacing, paper size and orientation
- Paginate, set headers and footers, page numbers, use special keys and functions
- Use advanced features such as footnotes, annotations, mail merge, outlining and templates
- Import and export data to other applications

Introduced: 3rd Grade
Continued: 4th Grade
Mastered: 5th Grade

(4) Essential Question:

How can we practice responsible use of technology systems and software?

Standards:

Students will demonstrate appropriate respect for intellectual property and copyright by properly citing copied sections and materials.

Students will adhere to district acceptable use policy.

Student will adhere to rules and standards set for both hardware use and internet access in each building.

Sample Activities:

Visit to <http://disney.go.com/park/channels/activities/today/flash/index.html> and other sites for internet safety.

Presentations and class discussion.

Rules for computer use clearly displayed and articulated.

Software Needed:

Internet Browser
Presentation Software

Hardware Needed:

Computers and internet access.
Speakers
Large Screen Monitors or projectors

Skills Needed:

General Technology Competencies:

- Use proper vocabulary and terminology for equipment
- Model the appropriate maintenance, care and operation of various technologies
- Understand the basics of operating a computer

- Demonstrate knowledge of keyboard
- Demonstrate basic 10 finger keyboarding and input skills for increased effectiveness and efficiency
- Retrieve and save files to appropriate locations
- Access and use the network using a personal password
- Paginate, set headers and footers, page numbers, use special keys and functions
- Understand the basics of how a computer operates
- Write a simple 10 line computer program

Electronic Research:

- Read, use and browse websites
- Evaluate and search critically read websites both in terms of content and source
- Use monitored lists and search tools (Yahooligans)
- Demonstrate understanding of ethical, legal and moral implications of uses of material

Introduced: 3rd Grade

Continued: 4th Grade

Mastered: 5th Grade

(5) Essential Question:

How can we create developmentally appropriate multimedia products with support from teachers, family members or student partners?

Standards:

Students will create multimedia slide shows and websites on given topics using multimedia components.

Students will create both linear and non-linear writing on the computers.

Sample Activities:

Creating Multimedia presentations, websites and other multimedia class projects.

Hardware Needed:

Computers with Internet Connections
Large Screen Monitors and projectors

Software Needed:

Productivity Package
Internet Browser

Skills Needed:

General Technology Competencies:

- Use proper vocabulary and terminology for equipment
- Model the appropriate maintenance, care and operation of various technologies
- Understand the basics of operating a computer
- Demonstrate knowledge of keyboard
- Demonstrate basic 10 finger keyboarding and input skills for increased effectiveness and efficiency
- Retrieve and save files to appropriate locations
- Access and use the network using a personal password
- Paginate, set headers and footers, page numbers, use special keys and functions
- Understand the basics of how a computer operates
- Write a simple 10 line computer program

Electronic Research:

- Read, use and browse websites
- Evaluate and search critically read websites both in terms of content and source
- Use monitored lists and search tools (Yahooligans)
- Demonstrate understanding of ethical, legal and moral implications of uses of material

Introduced: 3rd Grade

Continued: 4th Grade

Mastered: 5th Grade

(6) Essential Question:

How can we use age appropriate technology resources for problem solving, communication, and illustration of thoughts, ideas and stories.

Standards:

Students will create concept maps and story outlines using Inspiration
Students will create multimedia presentations for class.
Students will use email to communicate with other classes.

Sample Activities:

Creation of websites, kiosks and presentations using PowerPoint or other multimedia authoring software.
Keypal communication between classes within the district and from other school districts.
Concept mapping and outline creation using Inspiration.

Hardware Needed:

Computers with Internet Connections
Large Screen Monitors and projectors

Software Needed:

Productivity Package
Internet Browser
Inspiration

Skills Needed:

General Technology Competencies:

- Use proper vocabulary and terminology for equipment
- Model the appropriate maintenance, care and operation of various technologies
- Understand the basics of operating a computer
- Demonstrate knowledge of keyboard
- Demonstrate basic 10 finger keyboarding and input skills for increased effectiveness and efficiency
- Retrieve and save files to appropriate locations
- Access and use the network using a personal password
- Paginate, set headers and footers, page numbers, use special keys and functions
- Understand the basics of how a computer operates
- Write a simple 10 line computer program

Graphics Program:

- Create graphic elements using paint brushes, pallets and tables
- Modify graphics and manipulate graphics
- Import and export graphic elements
- Edit and manipulate media context

Desktop Publishing:

- Input text and graphics
- Design and modify layouts
- Print variety of publications
- Import and export data, video and audio

Multimedia Publishing:

- Input text and graphics
- Design and modify layouts
- Incorporate audio and video
- Incorporate both internal and external hyperlinks
- Create linear and non-linear presentation structures
- Create multimedia in a variety of formats including web based, slide shows and kiosk displays

Electronic Research:

- Read, use and browse websites
- Evaluate and search critically read websites both in terms and content and source
- Use monitored lists and search tools (Yahooligans)
- Demonstrate understanding of ethical, legal and moral implications of uses of material

Introduced: 3rd Grade

Continued: 4th Grade

Mastered: 5th Grade

(7) Essential Question:

How has the development of digital technology changed our society?

Standards:

Students will understand how technology has evolved in the last century.
Students will recognize that technology will continue to change throughout their lives.

Sample Activities:

Class discussion using websites and multimedia presentations to view older technology
Discuss devices at home that contain computers.

Hardware Needed:

Computers with Internet Connections
Large Screen Monitors and projectors

Software Needed:

Productivity Package
Internet Browser

Skills Needed:

General Technology Competencies:

- Use proper vocabulary and terminology for equipment
- Model the appropriate maintenance, care and operation of various technologies
- Understand the basics of operating a computer
- Demonstrate knowledge of keyboard
- Demonstrate basic 10 finger keyboarding and input skills for increased effectiveness and efficiency
- Retrieve and save files to appropriate locations
- Access and use the network using a personal password
- Paginate, set headers and footers, page numbers, and special keys to functions
- Understand the basics of how a computer operates
- Write a simple 10 line computer program

Electronic Research:

- Read, use and browse websites
- Evaluate and search critically read websites both in terms of content and source
- Use monitored lists and search tools (Yahooligans)
- Demonstrate understanding of ethical, legal and moral implications of uses of material

Introduced: 4th Grade**Continued:****Mastered:** 5th Grade

(8) Essential Question:

How can we use technology to organize and process information?

Standards:

Students will use a database to edit, sort, organize and process information.

Sample Activities:

Create and use a simple database with information from core curriculum.

Hardware Needed:

Lab

Software Needed:

Database

Skills Needed:

Database:

- Navigate through database program
- Enter and edit data
- Organize information in a database
- Sort and arrange data according to need
- Establish linkages and relationships between tables and data
- Manipulate data using statistical tools
- Designate categories and fields
- Generate a variety of reports for printing
- Create and modify a variety of layouts
- Merge data with other components
- Import and export data

Introduced: 3rd Grade

Continued: 4th Grade

Mastered: 5th Grade

Curriculum Maps for 6th through 12th Grades

(1) Essential Question

How can we apply strategies for identifying and solving routine hardware and software problems that occur during everyday use?

Standards:

Students will demonstrate proper use of equipment.
Will recognize and respect virus alerts.
Will save frequently and reboot computer when necessary.

Skills:

General Technology Competencies:

Use proper vocabulary and terminology for equipment.
Identify and troubleshoot minor technical problems.
Students will demonstrate skill in using a local area and/or wide area network and share resources via the network.
Demonstrate ability to use peripherals to gather experimental data (temperature probes, light sensors, etc).

Sample Activities:

Observe day to day use.

Where Introduced:

Continual

Assessment:

Observe

(2) Essential Question

How can students demonstrate knowledge of current changes in information technologies and the effect those changes have on the workplace and society?

Standards:

Compare and contrast both current technology development and the pace of change with development in the past.

Compare and contrast traditional artistic mediums with electronic mediums.

Students will use computers as a means for artistic expression.

Skills:*General Technology Competencies:*

Use proper vocabulary and terminology for equipment.

Demonstrate understanding of the history of technology and its implications for the future.

Sample Activities:

Class discussion.

Research current trends in technology.

Create work in both electronic and traditional medium - compare and contrast the process.

Software Needed:

Graphics and Internet

Hardware Needed:

Internet, Computer, Scanner and Printer

Where Introduced:

Continual

Assessment:

Continual and Project Based

(3) Essential Question

How can we use content-specific tools, software and simulations to support learning and research?

Standards:

Students will use simulation software to enhance materials discussed in content area class.

Skills:*General Technology Competencies:*

Demonstrate ability to use peripherals to gather experimental data (temperature probes, light sensors, etc.).

Use simulation software for content area work.

Sample Activities:

Drawing and rendering using animation software.

Graphing calculator work.

Simulations:

Use Simm City to teach important economic principals at the 12th grade level.

Use Simm City to teach the importance and roles of civil institutions at the 7th grade level.

Software Needed:

Content specific software.

Simulation.

(4) Essential Question

How can students apply productivity/multi media tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum?

Standards:

Students will prepare multimedia presentations at an appropriate level using multi media tools.

Students will incorporate audio and video into their presentations.

Skills:*General Technology Competencies:*

Integrate two or more technologies to produce multi-media products (e.g. digital camera, computer, video cassette recorder, large monitor, etc.).

Multimedia Publishing:

Input text and graphics.
Design and modify layouts.
Incorporate audio and video.
Incorporate both internal and external hyperlinks.
Create linear and non-linear presentation structures.

Electronic Research:

Read, use and browse websites.
Evaluate and search critically read websites both in terms of content and source.
Use monitored lists and search tools (Yahooligans).
Use un-monitored search tools (Yahoo).
Demonstrate understanding of ethical, legal and moral implications of uses of material.

Sample Activities:

Students will create multimedia presentations using a variety of resources.
Presentations should contain innovative and original ideas.

Software Needed:

Presentation Software

Assessment:

Project Based Assessment

(5) Essential Question

How can we design and develop, publish and present products using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom?

Standards:

Students will use technology to create web sites and present materials via the Internet and on paper.

Skills:*Desktop Publishing:*

Input text and graphics.
Design and modify layouts.
Print variety of publications.
Import and export data, video and audio.

Multimedia Publishing:

Input text and graphics.
Design and modify layouts.
Incorporate audio and video.
Incorporate both internal and external hyperlinks.
Create linear and non-linear presentation structures.
Electronic Research:
Read, use and browse websites.
Evaluate and search critically read websites both in terms of content and source.
Use monitored lists and search tools (Yahooligans).
Use un-monitored search tools (Yahoo).
Demonstrate understanding of ethical, legal and moral implications of uses of material.

Sample Activities:

Students will use the web as a means to share ideas, as a venue for artistic expression and as a vehicle for exchanging ideas.

Students create and post documents based questions with links to original documents and materials.

Develop a digital art gallery with artist's statement.

Software Needed:

Internet
Web Authoring Systems

Hardware Needed:

Computer with Internet access.
Scanner

(6) Essential Question

How can students collaborate with peers, experts, and others using telecommunications and collaborative tools to investigate curriculum-related problems, issues and information, and to develop solutions or products for audiences inside and outside the classroom?

Standards:

Students will work in groups to produce computer based research organized through both spreadsheets and databases.

Skills:

Database:

- Navigate through database program.
- Enter and edit data.
- Organize information in a database.
- Sort and arrange data according to need.
- Establish linkages and relationships between tables and data.
- Manipulate data using statistical tools.
- Designate categories and fields.
- Generate a variety of reports for printing.
- Create and modify a variety of layouts.
- Merge data with other components.
- Import and export data.

Spreadsheet:

- Recognize and navigate through a spreadsheet.
- Enter and edit information.
- Identify rows and columns, move between cells.
- Use labels and values.
- Sort and arrange by rows and columns.
- Create graphs and charts from spreadsheet data.
- Use built in mathematical functions.
- Import and export data.
- Build a formula using operations and references (both relative and absolute).
- Make changes to a formula.
- Create original formulas.
- Manipulate charts and graphics.

Electronic Research:

Read, use and browse websites.
Evaluate and search critically read websites both in terms of content and source.
Use monitored lists and search tools (Yahooligans)
Use un-monitored search tools (Yahoo).
Demonstrate understanding of ethical, legal and moral implications of uses of materials.

Sample Activities:

Construct tables and graphs using spreadsheet.
Will incorporate simple formulas.
Will design and be able to query a simple database.

Hardware Needed:

Computers with network and internet connections

Software Needed:

Productivity Package

(7) Essential Question

How can we select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems?

Standards:

Students will use graphing calculators to solve mathematical equations.
Students will use probeware, robotics and other technology to solve day to day problems.

Skills:

General Technology Competencies:

Operate a 4 function calculator and apply to problem solving.
Operate a scientific calculator and apply to problem solving.
Operate a graphing calculator and apply to problem solving.
Operate a programmable device, such as a video cassette recorder or copy machine.

Demonstrate ability to use peripherals to gather experimental data (temperature probes, light sensors, etc.).

Word Processing:

Create a new document and name a file.
Enter and edit text.
Open, close and save documents and print text.
Copy, cut, paste and move text, search and replace text.
Format text and modify style.
Incorporate graphics.
Use embedded tools such as spell check and thesaurus.
Set tabs, indents, margins, line spacing, paper size and orientation.
Paginate, set headers and footers, page numbers, use special keys and functions.

Graphics Programs:

Create graphic elements using paint brushes, pallets and tables.
Modify graphics and manipulate graphics.
Import and export graphic elements.
Edit and manipulate media content.

Desktop Publishing:

Input text and graphics.
Design and modify layouts.
Print variety of publications.
Import and export data, video and audio.
Electronic Research:
Read, use and browse websites
Evaluate and search critically read websites both in terms of content and source.
Use monitored lists and search tools (Yahooligans).
Use un-monitored search tools (Yahoo).
Demonstrate understanding of ethical, legal and moral implications of uses of material.

Sample Activities:

Research projects

(8) Essential Question

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

Standards:

Students will select materials in an ethical way with respect to copyright and intellectual property.

Students will critically evaluate all websites they use.

Skills:

Word Processing:

Create a new document and name a file.
Enter and edit text.
Open, close and save documents and print text.
Copy, cut paste and move text, search and replace text.
Format text and modify style.
Incorporate graphics.
Use embedded tools such as spell check and thesaurus.
Set tabs, indents, margins, line spacing, paper size and orientation.
Paginate, set headers and footers, page numbers, use special keys and functions.

Desktop Publishing:

Input text and graphics.
Design and modify layouts.
Print variety of publications.
Import and export data, video and audio.

Multimedia Publishing:

Input text and graphics.
Design and modify layouts.
Incorporate audio and video.
Incorporate both internal and external hyperlinks.
Create linear and non-linear presentation structures.

Electronic Research:

Read, use and browse websites.
Evaluate and search critically read websites both in terms of content and source.
Use monitored lists and search tools (Yahooligans).
Use un-monitored search tools (Yahoo).

Demonstrate understanding of ethical, legal and moral implications of uses of material.

Sample Activities:

Webquests involving different perspectives on the same issue.
Research projects.
Website and Multimedia creations.

(9) Essential Question:

What technology based options including distance education best contribute to lifelong learning?

Standards:

Students will use and evaluate web-based distance learning options, on-line discussion groups and courses.

Skills:

Work with other students and/or teachers and experts via distance learning technology

Sample Activities:

Distance learning.
Communication with classes and/or experts via remote line.
Participate and evaluate in on-line discussions.

(10) Essential Question

What represents ethical behavior when using technology?

Standards:

Students will select material in a legal and ethical way.
Students will demonstrate safe and productive web surfing habits.

Skills:

Demonstrate understanding of ethical, legal and moral implications of uses of material

Sample Activities:

Class discussions.
Student presentations
Web scavenger hunts.

Appendix B:

Professional Development Survey: