Diocese of Richmond
Technology Plan for Schools
2007 – 2012

Revised by Technology Committee of the
Master Curriculum Council
Richmond, VA 2005

5/05

DIOCESE OF RICHMOND, VIRGINIA
TECHNOLOGY PLAN FOR CATHOLIC SCHOOLS
2007 – 2012

Preface

Emerging technologies for information access and communication are dramatically changing all facets of society. The Catholic Schools of the Diocese of Richmond welcome the challenge offered by technological advancements as well as the opportunity to strengthen the faith and learning communities of the schools throughout the diocese. The Diocesan School System is committed to the development of sound technological infrastructures and to the equity of such structures throughout the school system.

Vision Statement for Catholic Schools

The Catholic School of the future, rooted in the richness of the Catholic tradition, will be a Christ-centered learning environment, focused on cultivating the potential of children and adults within the faith community.

As an educational center where Gospel values are learned, embraced, and integrated by all members, the Catholic School will be a center for life-long learning, which both challenges and empowers persons to assess the present and to design the future.

The Catholic School will create an integrated curriculum that accommodates the diversity of learners in a global society.

Mission Statement for Technology

The Catholic Schools of the Diocese of Richmond believe that technology is an essential and supportive medium of and for learning. In addition to being an increasingly necessary and helpful educational tool, technology can also provide learners an opportunity to make informed moral and ethical decisions in an ever-changing world. The educational professionals see technology as a means of support in assisting each learner to his/her optimum level of learning.

Plan Structure

- A yearly inventory will be maintained and used as reference.
- The Master Curriculum Council will research the methods on integrating technology into the Diocesan Consensus Curriculum.
- The Superintendent and Assistant Superintendents visit each school and assess the level of implementation as well as the integration of technology in the curriculum.
- The Master Curriculum Council determined that technology would become an integral part of the existing competency-based curriculum for all disciplines Pre-K through Grade 12.
- The Office of Catholic Schools and the Master Curriculum Council will continue to oversee the development and implementation of technology as integrated into the life of all learners.
- Each school will designate a Technology Coordinator. The staff of the Office of Schools will work with each teacher to understand and implement the plan. A network of technology personnel will be established.
- The Technology Coordinator will certify that all members of the faculty are current on the Teacher Standards.
- The Technology Committee of each school will yearly conduct a needs assessment for technology integration utilizing the resources of faculty, parents, students, and community. After analyzing the status, the Technology Resource Teacher and Committee will extend the school's five-year strategic plan for integrating technology into all aspects of the school program.

TECHNOLOGY PLAN

Facilities and Equipment

GOAL:

Each school will continue to assess and inventory the capacity of its physical plant to house state of the art technological equipment.

ACTION:

- *The Technology Coordinator will be responsible to conduct the building audit for technology along with any additional technology personnel.*
- *The Office of Catholic Schools and the Master Curriculum Council will review each school audit and assist in resourcing the school.*

GOAL:

Each school will continually update the five-year strategic plan for technology that addresses the infrastructure, equipment, and in-service needs of the school. (The Diocesan Technology Plan will be the framework for every Catholic School in the Diocese of Richmond and has been certified by the Virginia Department of Education as the Diocesan School System Plan.)

ACTION:

- *The Technology Coordinator and School Technology Committee will consult with the school committee and maintain a technology plan. Each plan will be evaluated annually and, as necessary, updated.*
- *The Technology Coordinator and School Technology Committee will upgrade and monitor a timeline for acquisition for state of the art equipment to provide access to all learners.*
- *School plans will increase the ratio of students to computers each year.*
- *School plans will provide each teacher with access to computer technologies for lesson preparation and presentation.*

Administrative and Professional Staff

GOAL:

Principals/Presidents, as educational decision-makers, will commit their efforts to the implementation of a process, which will make technology an integral part of the faith and learning community.

ACTION:

- *Administrators will design and implement a professional development plan for all faculty and staff. (A minimum of one day per school year will be dedicated to technology in-service.)*
- *Administrators will dedicate a percentage of instructional money in the yearly budget to technology.*
- *Teacher/staff evaluation will include the Standards for Technology.*
- *All personnel will be able to communicate with other faculty, and the wider school community by electronic means.*
- *The Office of Catholic Schools will utilize other technologies to provide resources and training to assist schools in professional development (e.g., conferencing, diocesan web page).*
- *The Office of Catholic Schools will research distance learning programs for recertification and for degrees.*
- *E-mail will be used to collaborate and exchange resource materials and to interact with other teachers within and outside of school.*
- *Personnel hired will demonstrate ability to use technology in lesson preparation and presentation or in duties appropriate to the position.*
- *Principals and administrators will be strongly encouraged by OCS to share ideas and resources with other regional school systems whether public or private.*
- *The Office of Catholic Schools will develop a system of technological communication (e.g., video conferencing, diocesan web page).*

Administrative Records

GOAL:

Schools will utilize technology for administrative needs, e.g., student records, attendance, finances, scheduling, family information, and personnel.

ACTION:

- *Schools will create a comprehensive database of information for each student, e.g., student and parent information: biographical, religious background, emergency contacts, medical requirements, etc.*
- *The established database will be designed for access by the larger school community on an as needed basis, e.g., school office, PTA, parish offices, teachers, health clinic, etc. (Privacy laws must be followed.)*
- *To maintain confidentiality, security systems will be incorporated into administrative systems as necessary.*
- *A computerized personnel file will be created for each employee including, for example, OSHA training, VIRTUS training, religious education points, state certification, attendance, emergency contacts, TB testing, pay scale, etc.*
- *Each school will obtain a computer program to record and report school records, e.g., attendance, academics, discipline, conduct, effort, service hours, scheduling, etc.*
- *Schools will focus on procuring a network system that provides easy access for all administrative staff in securing the above goals.*

Communications

GOAL:

The Office of Catholic Schools and all schools will continue to electronically communicate with each other.

ACTION:

- *The Office of Catholic Schools will communicate reports and disseminate resources to all schools.*
- *The Office of Catholic Schools will continue to communicate by e-mail with peers, and/or experts in the field for exchange of information for academic purposes.*

GOAL:

Schools will provide age appropriate access to the Internet for learners.

ACTION:

- *Schools will have every student and parent sign an acceptable use policy yearly.*
- *Schools will provide opportunities for the use of on-line tools ("tools like filtering software as appropriate") as well as a security system.*
- *Schools will emphasize the analysis of information and help students make appropriate choices from a variety of on-line information sources.*
- *Schools will emphasize the obligation to properly cite sources of all information and graphics obtained from on-line sources.*
- *Schools will enlighten all students as to the ethics required in using technology.*

GOAL:

The Office of Catholic Schools and each school will develop and regularly update a web page to be used as a marketing tool.

ACTION:

- *The Office of Catholic Schools will continue to use the web page to communicate regularly updated information about programs in the Diocese of Richmond.*
- *The Technology Coordinator and the Designated School Official will work together to communicate information through a school web page.*

GOAL:

Schools will explore possibilities of connecting with local and state education agencies to augment programs and to explore new opportunities for cooperative efforts in the area of technology.

ACTION:

- *The Office of Catholic Schools will facilitate contact with the Virginia Department of Education and assist each school region in contacting local LEA's.*
- *Schools will exchange resources and communicate with local LEA's, e.g., Henrico, Norfolk, Richmond City, etc.*
- *Schools will work with local businesses to assist in the acquisition of equipment and training of personnel.*
- *High schools will foster student intern programs with local businesses.*

Planning and Fiscal Management

GOAL:

A system to plan, evaluate, and manage finances will be developed to assist the schools to grow.

ACTION:

- *Schools will seek funding for technology to include grants, annual fund raising, major donors, and corporate sponsorship*.
- *Schools will regularly update the timeline for procurement of hardware and software in the five-year plan.*
- *The Office of Catholic Schools and the Diocesan School Board will publish policies on technology in the Diocesan Policy Book*.

Technology Integration in Curriculum

GOAL:

Technology will be integrated into every subject area in the Diocesan Consensus Curriculum in every school.

ACTION:

- *Learners' use of the research tools of technology will extend the understanding of cultural and economic differences and establish the common ground for all peoples.*
- *Training will be continued for administrators, teachers, staff, and students to enable them to utilize the emerging technologies*.
- *A process for the assessment of teacher competency will be updated and continue to be utilized.*

GOAL:

Schools will design an assessment and recording process that enhances learning and clarifies student learning.

ACTION:

- *Teachers will utilize technology to report student progress and communicate with parents and students.*
- *The Administration will recommend a timetable consistent with the diocesan plan for implementation of this goal.*

GOAL:

The Consensus Curriculum of the Diocese of Richmond will integrate technology in all disciplines.

ACTION:

- *The diocesan curriculum will be updated as the emerging communications and technology systems grow.*
- *Learners will explore software programs and learn to use the programs to strengthen learning.*
- *Students will be capable of using multimedia tools to formulate ideas and expressions.*
- *Teachers will be encouraged to share successful ways of integrating technology into the curriculum.*

GOAL:

Schools will develop technological resources to be used with all students.

ACTION:

- *Word processing techniques, terminology, and computer skills will be used to help students with special needs.*
- *Word processing skills and telecommunications will be used to improve one's ability to communicate.*
- *Multimedia tools will be used to creatively formulate ideas and concepts.*
- *Groups of students will exchange the successes and problems they experience with technology.*

Library Management

GOAL:

The library will serve as a center for technology communication and curriculum integration.

ACTION:

- *Schools will provide the library with the technological tools (hardware and software) necessary to support curriculum areas.*

- *Schools will provide the librarian with the opportunity to attend technology conferences and/or presentations in order to evaluate programs and software supportive to the curriculum.*
- *Schools will provide computer- cataloging records for the library.*
- *An on-line circulation system will be provided for accurate and efficient record keeping of statistics, circulation, and library activity.*
- *Technology tools will streamline and make more efficient the acquisition process for library materials.*
- *An on-line catalog will be provided as a tool for more efficient access to library materials.*

Technology Staff

GOAL:

The technology staff will serve as consultants and coordinators within a school for the implementation of all hardware, software, and curriculum integration.

ACTION:

- *Technology staff will provide professional development in-services for school personnel.*
- *Schools will provide technology staff the opportunity to attend technology conferences.*
- *Schools will provide technology staff the opportunity to attend classes and/or workshops to remain current with emerging technologies*

Diocese of Richmond
Teacher Standards for Technology
2005

Standard 1 – Demonstrate Effective Use of a Computer System and Utilize Computer Software

Level 1 – Must complete all components

1. Turn on and properly shut down the computer system (e.g., CPU, monitors, printers, speakers).
2. Can logon and sign off of the school's network (if applicable to your school).
3. Create, open, name, and save files to and from the hard drive and floppy disk.
4. Create a word processing or spreadsheet document.
5. Print a document.
6. Use computer software at least once a year as an integral part of a lesson.
7. Run a program from a CD.
8. Reboot the computer as basic troubleshooting (e.g., CTRL-ALT-DEL, restart).

Level 2

1. Save file to and from the network and USB flash drive.
2. Identify the operating system on the computer.
3. Install a program from a CD.
4. Identify and change cartridges for printer.
5. Change default printer.
6. Change desktop background, screen saver, colors or settings.
7. Take pictures with a digital camera.
8. Use a scanner.
9. Troubleshoot using Task Manager to end program.

Level 3

1. Burn file to a CD-R or CD-RW.
2. Troubleshoot printer problem (e.g., clear printer jam, solve communication problem).
4. Transfer digital images from camera to hard drive, network or CD.
5. Create desktop shortcut.
6. Run utilities such as Scandisk or Disk Defragmenter.
7. Determine the amount of used and free storage space on the hard drive.
8. Determine the amount of RAM on computer system.
9. Update date/time.
10. Open files created in another application (e.g., select appropriate software that may be able to convert or open files).

Standard 2 – Apply Knowledge of Terms Associated with Educational Computing and Technology

Level 1– Must complete all components

1. Know and understand the following terms: CPU, monitor, mouse, keyboard, printer, speakers, scanner, digital camera, software, hardware, hard drive, floppy disk, CD, flash drive (jump drive), e-mail, attachment, login, password, logout, minimize, maximize, booting and re-booting, cursor, click and double click, highlight, drag and drop, cut and paste, icon, file, folder, desktop, Recycle Bin, spell check, browser, search, URL, web site, site license, virus, spam, Internet, laptop, Windows, Mac, PDA.*
2. Distinguish between dot matrix, inkjet and laser printers.
3. Distinguish between input, output and storage devices.

*** Quiz for Level 1 is available in the technology plan.**

Level 2

1. Know and understand the following terms: RAM, ROM, network, scrolling, scroll bar, toolbar, status bar, data, database, spreadsheet, graphics, queue, spy ware, ISP, search engine, broadband, dial-up, DVD, USB, parallel port, modem, teleconference, headers and footers, cells, rows, columns, chart or graph, borders, margins.
2. Know the relationship between bit, byte, kilobyte, megabyte and gigabyte.
3. Distinguish between the storage capacities of floppy disks, CDs and flash drives.
4. Distinguish between file types (*.txt, *.jpg, *.doc, *. bmp, *.exe, *.xls, *.mdb, *.htm).

Level 3

Know and understand the following terms: LAN, WAN, peer-to-peer network, worm, Trojan horse, network switch, data drop, BIOS, DOS, HTML, directory.

Standard 3 – Apply Productivity Tools for Professional Use

Level 1– Must complete all components

1. Create a word processing document (e.g., letter to parent, classroom handout).
2. Create a basic spreadsheet and sort data.
3. Utilize a grading program (if applicable to your school).

Level 2

1. Create a word processing documents including graphics, tables and columns.
2. Create a spreadsheet using basic formulas (e.g., average, sum).
3. Create a presentation including title slide and graphics.
4. Create a newsletter or brochure using desktop publishing software.
5. Create a simple classroom web page including 2 links.

Level 3

1. Create a presentation including transitions and animations.

2. Create a multi-page website which is regularly updated.
3. Create a simple database including tables, queries and reports.
4. Utilize advanced features of software suite integrating the components of various programs (e.g. integrate spreadsheet graph into word processing document or presentation, use mail merge to create labels in word processing from database).
5. Utilize online productivity services to create a unique activity (e.g., FunBrain, Hot Potatoes, Quia, EdHelper).

Standard 4 – Use Electronic Technology to Access and Exchange Information

Level 1– Must complete all components

1. Use a web browser to access and navigate a web page.
2. Conduct an efficient Internet search on a particular topic.
3. Use library database (if applicable to your school).
4. Communicate using email.

Level 2

1. Perform an advanced search using Boolean operators (AND, OR, +, -).
2. Login to external web site by creating a user name and password.
3. Utilize email with advanced features such as forwarding, attachments and distribution lists.
4. Utilize teleconferencing (if applicable to your school).

Level 3

1. Create and use an online course for classroom instruction (e.g., Blackboard).
2. Setup a teleconference.
3. Create quizzes, tests, puzzles, etc. that can be accessed and used through the local intranet.

Standard 5 – Identify, locate, evaluate and use instructional hardware and software

Level 1– Must complete all components

1. Locate, review and evaluate instructional software which supports the curriculum.
2. Use instructional software in the classroom.
3. Operate a VCR.
4. Operate an overhead projector or projection device.

Level 2

1. Review and evaluate software by downloading demos or evaluation trials to see if it supports the learning standards.
2. Understand minimum requirements listed with the software and make sure that the software is compatible with the computer hardware.
3. Operate a DVD (if applicable to your school).

Level 3

Demonstrate software to colleagues and recommend how it can be implemented in the classroom.

Standard 6 – Use technologies for data collection, information management, problem solving, decision making, communications and presentation within the curriculum

Level 1– Must complete all components

1. Use a PowerPoint or computer activity created by a third party to supplement a lesson.
2. Create a word processing document or spreadsheet for the class to supplement a lesson.
3. Access and navigate a web page with the class to supplement a lesson.

Level 2

1. Use a computer with a projection device or television to present a lesson utilizing online sources (e.g., weather hurricane web pages, virtual tours, university-led mock elections, textbook sites, United Streaming , Tom Snyder's Decisions, Decisions,).
2. Create a presentation to supplement a lesson.
3. Create a list of appropriate websites for students' use in a unit of study.
4. Locate an appropriate website and have students participate in interactive online instruction (e.g., university-led mock elections, textbook sites).
5. Utilize graphing calculators, science probes or digital microscopes to supplement a lesson (if it applies to your curriculum).

Level 3

Create a presentation integrating word processing documents or spreadsheets to supplement a lesson.

Standard 7 – Plan and implement lessons and strategies that integrate technology to meet the diverse needs of learners in a variety of educational settings

Level 1– Must complete all components

1. Use a variety of technologies to address different learning style (e.g., overhead, cassette tape player, projector, TV, VCR, DVD).
2. Use appropriate software in the classroom for student-centered instruction recognizing students' diverse needs.
3. Use a web quest created by a third party.

Level 2

Create a web quest.

Level 3

Create a computer activity using strategies that include auditory, visual and kinesthetic modalities of learning (e.g., web quest, PowerPoint).

Standard 8 – Demonstrate knowledge of ethical and legal issues relating to the use of technology

Level 1– Must complete all components

Understands licensing agreements and models the ethical use of technology in the classroom in areas such as software licensing, copyright, peer-to-peer file sharing, and privacy issues.

Level 2

Presents ethical and legal issues when using technology in the classroom and discusses its importance in areas such as software licensing, copyright, peer-to-peer file sharing, and privacy issues.

Level 3

Makes sure that students and/or others in the school community understand and abide by the ethical and legal issues relating to the use of technology in areas such as software licensing, copyright, peer-to-peer file sharing, and privacy issues.

Name _____ School _____

Teacher Standards for Technology
Electronic Portfolio
2005

Procedures and Certification Requirements

Documentation may come from many sources including but not limited to any courses taken, workshops attended, or classroom observations made. The portfolio manager should note the details of date, activity, and the person certifying the activity.

There are eight (8) standards listed with three (3) levels in each. To earn one point all competencies within a level must be completed. For example, to receive one point for Standard 1 Level 1 all eight competencies listed must be completed. The majority of levels include more than one competency.

Each level of each standard is worth one (1) point. So a person completing the competencies for all Levels of every Standard would achieve a maximum of 24 points and, therefore, would be certified in the advanced category.

All teachers must complete the Emergent category for recertification.

Minimum Technology Certification for Teachers

	Emergent	Intermediate	Advanced
Grades K-5, Specials *	8 points (All Standards: Level 1)	16 points (All Standards: Level 1 and 2)	24 points (All Standards: Levels 1, 2 and 3)
Grades 6-8	10 points (All Standards: Level 1 + 2 additional Level 2 or 3 in any Standard)	16 points (All Standards: Level 1 and 2)	24 points (All Standards: Levels 1, 2 and 3)
Grades 9-12	12 points (All Standards: Level 1 + 4 additional Level 2 or 3 in any Standard)	16 points (All Standards: Level 1 and 2)	24 points (All Standards: Levels 1, 2 and 3)

*Pre-Kindergarten teachers wishing to become certified should complete the 8 point Emergent Certification.

Standard 1 – Demonstrate Effective Use of a Computer System and Utilize Computer Software

Level 1 – Must complete all components

Competency	Date completed	Documentation
Turn on and properly shut down the computer system (e.g., CPU, monitors, printers, speakers).		
Logon and logoff the school's network (if applicable to your school).		
Create, open, name, and save files to and from the hard drive and floppy disk.		
Create a word processing document or spreadsheet.		
Print a document.		
Use computer software at least once a year as an integral part of a lesson.		
Run a program from a CD.		
Reboot the computer as basic troubleshooting (e.g., CTRL-ALT-DEL, restart).		

Level 2

Competency	Date completed	Documentation
Save file to and from the network and USB flash drive.		
Identify the operating system on the computer.		
Install a program from a CD.		
Identify and change cartridges for printer.		
Change default printer.		
Change desktop background, screen saver, colors or settings.		
Take pictures with a digital camera.		
Use a scanner.		
Troubleshoot using Task Manager to end program.		

Level 3

Competency	Date completed	Documentation
Burn file to a CD-R or CD-RW.		
Troubleshoot printer problem (e.g., clear printer jam, solve communication problem).		
Transfer digital images from camera to hard drive, network or CD.		
Create desktop shortcut.		
Run utilities such as ScanDisk or Disk Defragmenter.		
Determine the amount of used and free storage space on the hard drive.		
Determine the amount of RAM on computer system.		
Update date/time on a computer.		
Open files created in another application (e.g., select appropriate software that may be able to convert or open files).		

Standard 2 – Apply Knowledge of Terms Associated with Educational Computing and Technology

Level 1 - Must complete all components

Competency	Date completed	Documentation
Know and understand the following terms: CPU, monitor, mouse, keyboard, printer, speakers, scanner, digital camera, software, hardware, hard drive, floppy disk, CD, flash drive (jump drive), e-mail, attachment, login, password, logout, minimize, maximize, booting and re-booting, cursor, click and double click, right click, highlight, drag and drop, cut and paste, copy, font, icon, file, folder, desktop, Recycle Bin, spell check, browser, search, URL, web site, site license, virus, spam, Internet, laptop, Windows, Mac, PDA.		
Distinguish between how dot matrix, inkjet and laser printers work.		
Distinguish between input, output and storage devices.		

There is a quiz available to test Level 1 competencies. The teacher must score a minimum of 80% for certification of this Standard at Level 1.

Level 2

Competency	Date completed	Documentation
Know and understand the following terms: RAM, ROM, network, scrolling, scroll bar, toolbar, status bar, data, database, spreadsheet, graphics, queue, spy ware, ISP, search engine, broadband, dial-up, DVD, USB, parallel port, modem, teleconference, headers and footers, cells, rows, columns, chart or graph, borders, margins, gutter justification, format. Know the relationship between bit, byte, kilobyte, megabyte and gigabyte.		
Distinguish between the storage capacities of floppy disks, CDs and flash drives.		
Distinguish between file types (*.txt, *.jpg, *.doc, *. bmp, *.exe, *.xls, *.mdb, *.htm)		

Level 3

Competency	Date completed	Documentation
Know and understand the following terms: LAN, WAN, peer-to-peer network, worm, Trojan horse, network switch, data drop, BIOS, DOS, HTML, directory.		

Standard 3 – Apply Productivity Tools for Professional Use

Level 1 - Must complete all components

Competency	Date completed	Documentation
Create a word processing document (e.g., letter to parent, classroom handout).		
Create a basic spreadsheet and sort data.		
Utilize a grading program (if applicable to your school).		

Level 2

Competency	Date completed	Documentation
Create a word processing documents including graphics, tables and columns.		
Create a spreadsheet using basic formulas (e.g., average, sum).		
Create a presentation including title slide and graphics.		
Create a newsletter or brochure using desktop publishing software.		
Create a simple classroom webpage including 2 links.		

Level 3

Competency	Date completed	Documentation
Create a chart from a spreadsheet.		
Create a presentation including transitions and animations.		
Create a multi-page website which is regularly updated.		
Create a simple database including tables, queries and reports.		
Utilize advanced features of software suite integrating the components of various programs (e.g. integrate spreadsheet graph into word processing document or presentation, use mail merge to create labels in word processing from database).		
Utilize online productivity services to create a unique activity (e.g., FunBrain, Hot Potatoes, Quia, EdHelper).		

Standard 4 – Use Electronic Technology to Access and Exchange Information

Level 1 - Must complete all components

Competency	Date completed	Documentation
Use a web browser to access and navigate a web page.		
Conduct an efficient Internet search on a particular topic.		
Use library database (if applicable to your school).		
Communicate using email.		

Level 2

Competency	Date completed	Documentation
Perform an advanced search using Boolean operators (AND, OR, +, -).		
Login to external web site by creating a user name and password.		
Utilize email with advanced features such as forwarding, attachments and distribution lists.		
Utilize teleconferencing (if applicable to your school).		

Level 3

Competency	Date completed	Documentation
Create and use an online course for classroom instruction (e.g., Blackboard).		
Setup a teleconference.		
Create quizzes, tests, puzzles, etc. that can be accessed and used through the local intranet or network.		

Standard 5 – Identify, locate, evaluate and use instructional hardware and software

Level 1 - Must complete all components

Competency	Date completed	Documentation
Locate, review and evaluate instructional software which supports the curriculum.		
Use instructional software in the classroom.		
Operate a VCR.		
Operate an overhead projector or projection device.		

Level 2

Competency	Date completed	Documentation
Review and evaluate software by downloading demos or evaluation trials to see if it supports the learning standards.		
Determine if minimum requirements of selected software is compatible with the computer hardware.		
Operate a DVD (if applicable to your school).		

Level 3

Competency	Date completed	Documentation
Demonstrate software to colleagues and recommend how it can be implemented in the classroom.		

Standard 6 – Use technologies for data collection, information management, problem solving, decision making, communications and presentation within the curriculum

Level 1 - Must complete all components

Competency	Date completed	Documentation
Use a PowerPoint or computer activity created by a third party to supplement a lesson.		
Create a word processing document or spreadsheet for the class to supplement a lesson.		
Access and navigate a webpage with the class to supplement a lesson.		

Level 2

Competency	Date completed	Documentation
Use a computer with a projection device or television to present a lesson utilizing online sources (e.g., weather hurricane web pages, virtual tours, university-led mock elections, textbook sites, United Streaming, Tom Snyder's Decisions, Decisions).		
Create a presentation to supplement a lesson.		
Create a list of appropriate websites for students' use in a unit of study.		
Locate an appropriate website and have students participate in interactive online instruction (e.g., university-led mock elections, textbook sites).		
Utilize graphing calculators, science probes or digital microscopes to supplement a lesson (if it applies to your curriculum).		

Level 3

Competency	Date completed	Documentation
Create a presentation importing external elements such as graphs, tables or charts from word processing documents or spreadsheets to supplement a lesson.		

Standard 7 – Plan and implement lessons and strategies that integrate technology to meet the diverse needs of learners in a variety of educational settings

Level 1 - Must complete all components

Competency	Date completed	Documentation
Use a variety of technologies to address different learning styles (e.g., overhead, cassette tape player, projector, TV, VCR, DVD).		
Use appropriate software in the classroom for student-centered instruction recognizing students' diverse needs.		
Use a web quest created by a third party.		

Level 2

Competency	Date completed	Documentation
Create a web quest		

Level 3

Competency	Date completed	Documentation
Create a computer activity using strategies that include auditory, visual and kinesthetic modalities of learning (e.g. web quest, PowerPoint).		

Standard 8 – Demonstrate knowledge of ethical and legal issues relating to the use of technology

Level 1 - Must complete all components

Competency	Date completed	Documentation
Understands licensing agreements and models the ethical use of technology in the classroom in areas such as software licensing, copyright, peer-to-peer file sharing, and privacy issues.		

Level 2

Competency	Date completed	Documentation
Presents ethical and legal issues when using technology in the classroom and discusses its importance in areas such as software licensing, copyright, peer-to-peer file sharing, and privacy issues.		

Level 3

Competency	Date completed	Documentation
Make sure that students and/or others in the school community understand and abide by the ethical and legal issues relating to the use of technology in areas such as software licensing, copyright, peer-to-peer file sharing, and privacy issues.		

Name _____ School _____

Teacher Standards for Technology
Standard 2 Level 1 Quiz
2005

There area a series of 4 sections of matching questions. Simply fill in the blank on the left with its best match. No choices are used more than once.

A. Matching:

_____	1. A small, portable flash memory card that plugs into a computer's USB port and functions as a portable hard drive	a. CD
_____	2. A camera that stores images digitally rather than recording them on film	b. CPU
_____	3. A compact disk, usually read only, for storing digital information	c. digital camera
_____	4. Refers to objects that you can actually touch, like disks, disk driver, display screens, keyboards, printers, boards, and chips	d. flash drive (jump drive)
_____	5. A magnetic disk on which you can store computer data usually permanently installed inside the computer	e. floppy diskette
_____	6. The most common operating system for PCs	f. hard drive
_____	7. The set of typewriter-like keys that enables you to enter data into a computer	g. hardware
_____	8. A personal digital assistant, a handheld device that combines computing, telephone/fax, Internet and networking features	h. keyboard
_____	9. Short for Macintosh, a brand of computers made by Apple Corp.	i. laptop
_____	10. Computer instructions or data-anything that can be stored electronically	j. Mac
_____	11. A portable, soft magnetic disk, used to store data, usually 1.44 MB in size	k. monitor
_____	12. Display screen	l. mouse
_____	13. The brains of the computer, central processor unit, where most of the calculations take place	m. PDA
_____	14. A small portable computer	n. printer
_____	15. A device that controls the movement of the cursor or pointer on a display screen	o. scanner
_____	16. Device to convert digital audio files to sound that can be heard by the user	p. software
_____	17. A device that can read text or illustrations printed on paper and translate the information into a form the computer can use	q. speakers
_____	18. A device that prints text or illustrations on paper	r. windows

B. Designate which of the following characteristics belong to **A** (a dot matrix printer, **B**) an inkjet printer or **C**) a laser printer.

_____ 1. Sprays ink at a sheet of paper
_____ 2. Uses the same technology as copy machines
_____ 3. Creates characters by striking pins against an ink ribbon
_____ 4. Combinations of dots form characters and illustrations
_____ 5. Often utilizes wide, continuous feed paper
_____ 6. Oldest technology, usually only found in business offices
_____ 7. Affordable for home use, often able to print in color
_____ 8. Produces lowest-quality print than the others
_____ 9. Produce high-quality text and graphics
_____ 10. Produces highest quality text and graphics

C. Indicate which of the following is (**A** an input device, **B**) an output device or **C)** a storage device.

_____ 1. mouse
_____ 2. flash drive
_____ 3. scanner
_____ 4. keyboard
_____ 5. printer
_____ 6. monitor
_____ 7. floppy diskette
_____ 8. hard disk
_____ 9. speakers
_____ 10. microphone

D. Matching:

_____ 1. Press a mouse button twice in rapid succession — a. attachment
_____ 2. Press the right mouse button — b. browser
_____ 3. A file attached to an e-mail message — c. cursor
_____ 4. The global address of documents and other resources on the World Wide Web, Uniform Resource Locator — d. desktop
_____ 5. To emphasize an object on a display screen by displaying it in a different mode from other objects by, for example, brightening the area or reversing the color of characters within the area — e. double click
_____ 6. A software application used to locate and display web pages — f. folder
_____ 7. An object that can contain multiple documents, used to organize information — g. highlight
_____ 8. A contract that grants a party explicit rights to use a program anywhere on your property — h. icon
_____ 9. A special symbol, usually a solid rectangle or a blinking underline character, that signifies where the next character will be displayed on the screen — i. Internet
_____10. A program or piece of code that is loaded onto your computer without your knowledge and runs against your wishes often to do damage — j. logout
_____11. The background you see on the computer screen when you first log in which can show files, folders, shortcuts and the Recycle Bin — k. Recycle Bin
_____12. To end a session at the computer — l. right click
_____13. A global network connecting millions of computers — m. site license
_____14. A small picture that represents an object or program — n. URL
_____15. An icon on the Windows desktop that represents a directory where deleted files are temporarily stored — o. virus

E. Matching:

_____ 1. To remove an object or text from a document and place it in a buffer or clipboard for placement into a second document	a. booting
_____ 2. The transmission of messages over communications networks	b. click
_____ 3. A design for the appearance of numbers and letters	c. cut and paste
_____ 4. To make a computer system or network recognize you so that you can begin a computer session	d. drag
_____ 5. To convert a window into a tab on the taskbar	e. e-mail
_____ 6. To look for, especially in terms of web sites	f. file
_____ 7. To restart a computer	g. font
_____ 8. Electronic junk mail	h. login
_____ 9. A location on the World Wide Web	i. minimize
_____10. Available on most word processing programs which helps correct spelling mistakes	j. password
_____11. A secret series of characters that enables a user to access a file, computer, or program	k. rebooting
_____12. To tap on a mouse button, pressing it down and then immediately releasing it	l. search
_____13. Select the object with a mouse button and then move the mouse while keeping the mouse button pressed down	m. spam
_____14. A collection of data or information that has a name and extension	n. spell check
_____15. To load the first piece of software, usually the operating system, that starts a computer	o. web site

Performance Indicators for Technology-Literate Students
Diocese of Richmond

Preface

As we educate our students for this twenty-first century and beyond, technology has become a fact of life. To prepare our future members of society, the Diocese of Richmond offers these Technology Standards for Students.

Following the lead of the International Society for Technology Education (ISTE) and its National Educational Technology Standards for Students as well as the Department of Education for the state of Virginia, these standards are divided into six categories.

Standard 1 covers basic computer operations and concepts. Standard 2 requires students to address the social, ethical, and human issues as they relate to technology. Standard 3 deals with student use of technology in creating a learning product. Standard 4 involves students in using technology as a means of communication. Standard 5 asks students to use technology as a research tool. Finally, Standard 6 has students using technology as problem-solving and decision-making tools.

We are indebted to the Arizona student technology standards.

Revised May 2005

Grades K–2 Technology Standards

Standard 1. Basic Operations and Concepts

1. Communicate about basic technology components using developmentally appropriate and accurate terminology.
2. Apply basic vocabulary related to the internal operations of the technology (e.g., mouse, keyboard, monitor, toolbar, menu, window, folder, icon, hard drive, CPU, spreadsheet, word processor, cassette player, CD player, CD-ROM, DVD, VCR).
3. Identify the components of a computer (e.g., mouse, keyboard, monitor, CPU, printer).
4. Demonstrate correct ergonomic use of technology (e.g., correct posture, position of hands and feet).
5. Use multimedia resources (e.g., interactive books, educational software, and elementary multimedia encyclopedias).
6. Access information sources (e.g., CD-ROM encyclopedias, pre-bookmarked Internet sites).
7. Operate keyboard and other common input and output devices (e.g., point and click, arrow and enter/return keys, knows locations and function of keys, begins touch-typing).
8. Retrieve and save information (e.g., text documents).
9. Print documents.

Standard 2. Social, Ethical and Human Issues

1. Demonstrate respect for other students and work cooperatively while using technology (e.g., take turns, share resources, allow peers to work uninterrupted, do not erase or damage files, do not duplicate software or documents without proper authorization).
2. Use equipment appropriately (e.g., use for schoolwork, do not send threats, no food or objects near equipment, care for floppies, CDs and USB flash drives, use proper shut down procedures).
3. Describe uses of technology in daily life.

Standard 3. Technology Productivity Tools

1. Use word processing to create a document and use editing tools.
2. Insert a graphic into a word processing document.
3. Use a spreadsheet or database application to perform simple data analysis (e.g., comparison collections, graphs, and charts).
4. Create a multimedia product with support from teachers, family or student partners (e.g., slide show, video).

Standard 4. Technology Communication Tools

1. Gather information electronically and communicate with others with support from teachers, family members or student partners (e.g., CD-ROMs, web page).
2. Plan, design, and present an academic product to classroom or community (e.g., slide show, progressive story, drawings, story illustrations).

Standard 5. Technology Research Tools

1. Identify potential sources of information about a topic (e.g., video or cassette tapes, web pages, CD-ROMs).
2. Locate information in a resource selected by the teacher (e.g., Web page, CD-ROM).

Standard 6. Technology as a Tool for Problem Solving and Decision-Making

1. Use technology resources for problem solving, self-directed learning and extended learning activities.
2. Based on a class-defined problem, use technology to do the following:
    a) collect data
    b) interpret data
    c) express a conclusion.

Grades 3-5 Technology Standards

Standard 1. Basic Operations and Concepts

1. Apply basic vocabulary related to the internal operations of the technology (e.g., disks, drives, RAM, ROM, CD-ROM, DVD, and USB).
2. Demonstrate correct ergonomic use of technology (e.g., correct posture, position of hands and feet, proper height of keyboard).
3. Use touch-typing strategies to reach a minimum of 20 words per minute with accuracy.
4. Retrieve and save information (e.g., text documents, digital photos, music, video).
5. Print documents, text or image.

Standard 2. Social, Ethical and Human Issues

1. Describe and practice respect for other students while using technology (e.g., report behaviors that threaten the ability of others to legitimately use resources, allow peers to work uninterrupted, do not erase or damage files, documents or projects).
2. Use equipment appropriately (e.g., use for assignments and schoolwork versus personal pleasure, do not send threats).
3. Describe and practice legal and ethical behaviors when using technology (e.g., do not make illegal copies of CDs and DVDs, no peer-to-peer file sharing of copyrighted material).
4. Understand personal consequences of inappropriate use of technology.
5. Provide complete citations from electronic media (e.g., use age-level appropriate, reference formats for citing source of information).
6. Demonstrate and practice safe and correct security procedures (e.g., protect password).
7. Describe three-to-five uses of technology in daily life.
8. Discuss the positive and negative impact of technologies such as television and computers on daily life (e.g., negative health impact, safe Internet use, knowing what information is safe to share when using e-mail, "talking" to strangers).

Standard 3. Technology Productivity Tools

1. Use word processing editing tools to revise a document (e.g., cut and paste, tabs and margins, font size, font style, delete and undo, spell check, click and drag).
2. Design a word processing document with graphical elements (e.g., clip art, photographs, using text wrap, cropping, re-sizing, drawing tools).
3. Design a word processing document with columns or tables.
4. Create and use a spreadsheet to analyze data (e.g., use formulas, create charts and graphs).
5. Design and create a presentation.

Standard 4. Technology Communication Tools

1. Communicate information electronically.
2. Use technology tools for individual and collaborative communication activities to share products with audiences inside and outside the classroom (e.g., talk to an author, approved electronic bulletin boards and chats).
3. Plan, design, and present an academic product to classroom or community (e.g., slide show, progressive story, video production, digital images).

Standard 5. Technology Research Tools

1. Identify potential sources and locate information about a topic using available electronic research resources (e.g., video or cassette tapes, electronic card catalog, web pages, CD-ROMs, electronic books and encyclopedias, appropriate Internet resources).
2. Identify the components of a URL to determine the source of the information.
3. Identify the author, copyright date and publisher of information located in Internet and other electronic resources and determine whether the author is an authority, displays bias and is a primary or secondary source.

Standard 6. Technology as a Tool for Problem Solving and Decision-Making

1. Use technology resources for problem solving, self-directed learning and extended learning activities.
2. Based on a class-defined or student selected problem, use technology to:
   a) collect data
   b) interpret data
   c) express a conclusion

Grades 6-8 Technology Standards

Standard 1. Basic Operations and Concepts

1. Use basic vocabulary related to technology (e.g., RAM vs. ROM, fire wire, USB, parallel, serial, scanning, digitizing, OCR).
2. Use basic vocabulary related to systems (e.g., network, infrastructure, Internet, intranet, LAN, WAN, Ethernet, firewall, server).
3. Understand bits, bytes, kilobytes, megabytes and gigabytes.
4. Correlate units of measure with respect to storage devices (floppies, USB flash drives, hard drives, CDs).
5. Distinguish between input, output, storage and processing hardware.
6. Attach and detach various peripherals of a computer.
7. Use touch-typing strategies to reach a minimum of 30 words per minute with accuracy.
8. Retrieve and save information remotely (e.g., network servers, Internet, intranet, peripheral devices).
9. Demonstrate functional operation of technology devices (e.g., presentation devices, digital cameras, scanners, document cameras, and scientific probes).
10. Use troubleshooting strategies to solve application problems, basic hardware problems and basic connectivity problems (e.g., online help strategies, documentation, and collaboration with others).

Standard 2. Social, Ethical and Human Issues

1. Discuss basic issues related to responsible use of technology and information and describe personal consequences of inappropriate use.
2. Describe and practice safe Internet/intranet usage (e.g., does not post inappropriate or harmful material, do not reveal personal information, follow Acceptable Use Policy).
3. Describe and practice "netiquette" when using the Internet and electronic mail (e.g., use appropriate language; don't "shout" in communications).
4. Follow the rules for deciding when permission is needed for using the work of others (e.g., some sites specify whether permission is required or not, some work is in public domain).
5. Obtain permission to use the works of others, when applicable.
6. Provide complete citations from electronic media (e.g., use appropriate standardized reference formats for citing source of information) for all technology and non-technology projects.
7. Explain copyright laws and "fair use" guidelines (e.g., in relationship to print, video, computer software, multimedia project, music).
8. Describe copyright guidelines for multimedia creation and Internet development.
9. State personal consequences (e.g., fines, arrest, loss of privileges, grade reduction, academic probation) related to violations of the following:

    a) copyright (e.g., CDs, DVDs, peer-to-peer file sharing, print, video, images)
    b) password security
    c) privacy (e.g., student files on a network, hard drive and removable media).
10. Discuss the negative impact of unauthorized intrusions into networked data and describe actions to prevent these intrusions.
11. Compare information technologies from past to present and describe the implications of computer power doubling every 18 months (Moore's Law) (e.g., size, speed, cost).

12. Describe the impact of technology use on individuals at home and in the workplace (e.g., computer has replaced the TV for some individuals, free time is spent using technology versus outdoor activities, jobs have been created and/or eliminated due to technological advances, possible infringement of privacy).
13. Discuss the social implications of the "Digital Divide" (e.g., homes and schools with much technology and connectivity versus those with less or none).

Standard 3. Technology Productivity Tools

1. Use word processing editing tools to revise a document (e.g., cut, copy and paste, insert and delete, margins, indentation, page orientation, layout, alignment, font, font size, style, color, spell check).
2. Design a word processing document with graphical elements (e.g., clip art, digital photographs, symbols using text wrapping, cropping, re-sizing, or drawing tools).
3. Use technology device(s) to collect and record data (e.g., science probe, graphing calculator, PDA, alternative keyboards, webcams, GPS, Internet).
4. Create and use a spreadsheet to analyze data (e.g., use formulas, create charts and graphs) formatting as necessary (e.g., column width, row height, alignment, color).
5. Create a database with multiple fields to manipulate data in a variety of ways (e.g., sort, merge, list, report).
6. Design, create and present a multimedia presentation using multiple digital sources (e.g., from camera, video, scanner, CD-ROM, Internet).
7. Design, create and publish (where possible) a multi-link web page using multiple digital sources (e.g., from camera, video, scanner, CD-ROM, Internet).
8. Manipulate variables in a computer simulation to research a desired outcome (e.g., simulation software, Web-based simulation, textbook support software).

Standard 4. Technology Communication Tools

1. Collaborate electronically with experts, peers or others to analyze data and/or develop an academic product (e.g., e-mail, approved chat, online discussions, web environments, videoconferencing).
2. Present an academic product to share data and/or solutions (e.g., web site, multimedia presentation, video).

Standard 5. Technology Research Tools

1. Identify electronic research resources.
2. Define subject searching and devise a search strategy to locate information using available electronic research resources (e.g., electronic card catalog, online or CD-ROM reference sources, appropriate Internet resources).
3. Explain the difference between subject and keyword searching.
4. Construct keyword searches including basic Boolean logic using available electronic research resources (e.g., electronic card catalog, online or CD-ROM reference sources and appropriate Internet resources).
5. Identify the author, copyright date and publisher of information located in Internet and other electronic resources and determine whether the author is an authority, displays bias and is a primary or secondary source.
6. Obtain permission to use the work of others, when appropriate.
7. Create citations for electronic research sources following a prescribed format.
8. Gather research from a variety of electronic sources and identify the most appropriate information for answering a research question.
9. Identify the components of a URL to determine the source of the information.

Standard 6. Technology as a Tool for Problem Solving and Decision- Making

Based on a problem selected by the student, identify and use appropriate technology tools to:

a) collect data (e.g., using a probe, online index)
b) interpret data (e.g., using spreadsheet, database)
c) develop a solution to the problem (e.g., using a spreadsheet, database)
d) present findings (e.g., electronic presentation).

Grades 9-12 Technology Standards

Standard 1: Basic Operations and Concepts

1. Turn on/off a computer.
2. Log on/off the network.
3. Retrieve, revise and save electronic information remotely.
4. Demonstrate functional operation of technology device(s) (e.g., scanner, video camera, scientific probe, graphing calculator).
5. Describe computer viruses, spy ware, ad ware, and malware and ways to protect computers from them.

Standard 2: Social, Ethical and Human Issues

1. Make informed choices among technology systems, resources and services in a variety of contexts.
2. Explain personal liability issues and the impact of unauthorized intrusions related to security systems to protect technologies (e.g., passwords, encryption software, hacking, spamming).
3. Discuss individual privacy issues versus First Amendment protection (e.g., federal and state filtering and access legislation, blogs).
4. Follow the rules for deciding when permission is needed for using the work of others and obtain permission when applicable.
5. Explain copyright laws and "fair use" guidelines in relation to intellectual property (e.g., print, video, software, music, multimedia projects).
6. State personal consequences (e.g., fines, arrest, loss of privileges, grade reduction, academic probation) related to violations of the following:
   a) copyright (e.g., CDs, DVDs, peer-to-peer file sharing, print, video, images)
   b) password security
   c) privacy (e.g., student files on a network, hard drive and removable media).

Standard 3: Technology Productivity Tools

1. Create documents using professional format (e.g., résumé, letter of application, electronic portfolio, research paper).
2. Integrate information from one document to another (e.g., mail merge, graph into word processing document).
3. Create a document that utilizes hyperlinks (e.g., web link in documents, linking a word to a glossary, creating an interactive index).
4. Select appropriate technology devices to collect and record data (e.g., science probe, graphing calculator, PDA, webcam, GPS).
5. Create and use a spreadsheet to analyze variables (e.g., 12-month budget, loan rates, science and math experiments, investment portfolios, grade tracker).
6. Analyze data and create a database report from information manipulated in a variety of ways to support decisions (e.g., census data, polls and surveys, annual report).
7. Design and create a multimedia presentation or web site with interactive features (e.g., animation, sound, action buttons to play, video, control devices, open other applications, link to a web site).
8. Manipulate several variables in a computer simulation to reach a desired outcome (e.g., simulation software, web-based simulation, textbook support software).

Standard 4: Technology Communications Tools

1. Create digitized material (e.g., video interviews, scanned pictures, text, graphic information) for a project when appropriate.
2. Collaborate electronically with content experts.
3. Consider several methods and choose the best for building group collaboration in research, communication and presentation among students in physically separated schools.

Standard 5: Technology Research Tools

1. Explain the difference between Internet searching using directories and search engines.
2. Construct online or electronic database searches using Boolean logic (AND, OR, NOT) and advanced features (e.g., preferences, filtering) when presented with a problem to solve.
3. Given a concept, independently select appropriate electronic resources from school, community and the world (via online) to be used to locate relevant information.
4. Adapt software for personal efficiency by setting preferences for effective use of the software.
5. Utilize evaluation criteria (e.g., authority, purpose, accuracy, credibility and/or bias of author, relevancy, timeliness) to evaluate the appropriateness and effectiveness of electronic resources.
6. Create citations for electronic research sources following a prescribed format.

Standard 6: Technology as a Tool for Problem Solving and Decision-Making

1) Locate and use an online tutorial and discuss the benefits and disadvantages of this method of learning.
2) Research a career and predict the advanced training needed to maintain success in the career.
3) Design and implement a personal learning plan that utilizes technology (e.g., identify a topic such as an academic interest, personal hobby, health issue, potential job source).
4) As a capstone experience in a content area, identify a problem and formulate a strategy to solve the problem using appropriate technology tools to:
   a) collect data (e.g., using GPS, PDA, Internet, probeware, recordings)
   b) interpret data (e.g., visualization, simulation, modeling software)
   c) develop a solution to the problem
   d) Present findings (e.g., electronic presentation, web page, professionally formatted document, computer model, audio or video presentation, web streaming).