

# **ST. PAUL'S CATHOLIC SCHOOL**

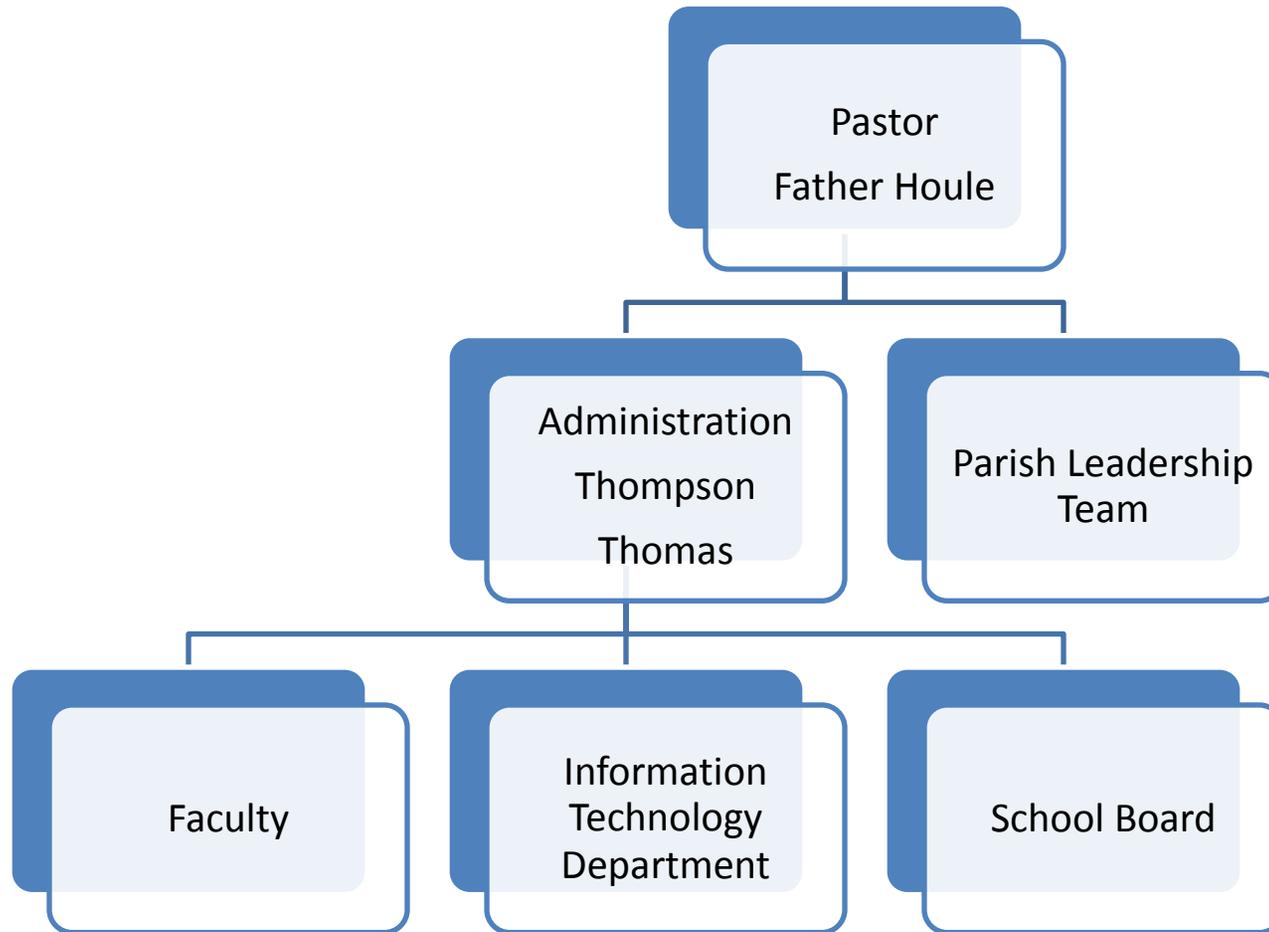
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## **TECHNOLOGY PLAN (Updated May 2018)**

**Krissy Thompson, Principal**

**5/18/2018**

# Technology



The Leadership team is responsible for developing an annual development plan, implementing the strategies that are developed in the plan, and providing oversight to increase development endeavors and school enrollment

## **Mission Statement**

The mission of the St. Paul's Catholic School community is to provide an environment where the Gospel message and teachings of the Catholic Church are woven throughout quality education...St. Paul's is a place where faith and knowledge intertwine.

### **Our Beliefs:**

- Each child is recognized as an individual with special gifts
- Parents are the primary teachers of their children and their involvement is vital to the success of the school program.
- Children are instilled with a strong sense of personal responsibility for their learning.
- Teachers provide a variety of diverse educational and technological approaches to prepare each child for an ever-changing world.
- Open communication and mutual respect prepares the heart, mind, and soul to meet life's many and varied challenges.
- Service to our school, our parish community, our country, and our world is the lived expression of our lives as a Eucharistic people.

ST. PAUL'S CATHOLIC SCHOOL IS FULLY ACCREDITED BY THE FLORIDA CATHOLIC CONFERENCE.

### **Introduction**

The goals of the St. Paul's Catholic School Technology Plan center on using technology to further our vision of academic excellence as well as ensuring that students demonstrate proficiency in Information, Media and Technology Literacy Standards. In a time when change is the rule rather than the exception, students need to learn how to adapt to the explosion of new information. It is not only about what we teach; it is about how we teach it. The Technology Plan's goals speak to the larger issues of preparing our students for their future, providing professional learning for teachers to use information technology tools and resources in everyday instruction, and ensuring proper and adequate funding and resources necessary to equip our classrooms for teaching digitally.

## **Vision**

The changes in our world have introduced an urgent need to teach students skills that transcend across all curricular areas. The 21st century classroom will ensure that technology is an integral part of a flexible and relevant environment. Students will be challenged to use technology and information resources responsibly and to think critically and creatively to solve problems effectively and efficiently.

## **Focus**

Purposeful use of technologies and digital tools is a centerfold of the 21st Century classroom. In the next three years, St. Paul's Catholic School is committed to moving forward to address our vision by improving access, flexibility, and cost-effectiveness of technology resources and tools to meet a variety of student learning needs. As such, the Technology committee and St. Paul's School Board continues to research and discuss top trends in technology education, "best practices", and how both of these will support our vision.

The priorities of the plan for the next three years include:

- Curriculum: Refine and develop interdisciplinary curriculum units featuring multi-media research tools, relevant experiences and varied technological student assessment tools.
- 21st Century Classroom: Continue implementation of Smart Board technologies, access to WI-FI, access to laptops, and access to I-Pads, establish a LMS.
- Media Tools and Resources: Increase access to high-quality digital resources including eBooks, databases and ability to videoconference for collaboration.
- Professional Learning: Increase access and flexibility to professional learning as well as provide differentiation based on assessment of staff and administrator skills.
- Systems: Explore, pilot or upgrade critical systems for grading, communications, and Web based parent information systems.

In developing this Plan, the SPCS Technology Planning Committee considered the reality of the current economic condition while ensuring access to the tools that will best meet the needs of our students and teachers. The following are the goals and strategies for 2013-2016. Finally, we will meet periodically each year to review and evaluate the success of this plan and reserve the option to change this Plan based on **ever-changing conditions, needs and funding.**

## I. Mission

Technology in education is a teaching and learning tool, that when used effectively, will support and help transform how we interact, produce and seek personal growth and enjoyment. We expect effective, competent, and purposeful use of technology by administrators, teachers, and students to establish seamless integration of technology on a daily basis throughout the curriculum and extracurricular activities.

St. Paul's strives to:

- provide each student opportunities to actively engage in the use of various forms of technology and research.
- enable students to become capable information technology users; information seekers, analyzers, and evaluators; problem-solvers and decision-makers; creative and effective users of productivity tools; communicators, collaborators, publishers, and producers; and informed, responsible, and contributing citizens.
- provide teachers with technological tools, in-services on their use, and technical support in order to promote technology's effective use in student instruction.
- review the curriculum yearly to ensure that technology is integrated, whenever appropriate, throughout all areas of the curriculum.
- improve the efficiency of the administrative, teaching, and management functions at St. Paul's through the integration of appropriate technology.
- develop parent and business partnerships to increase the availability of technological tools for teacher and student use.

## II. INTRODUCTION/HISTORICAL DATA

St. Paul's Catholic School completed the first Technology Plan in **August 2000**. You may review the previous plan to obtain the full history of the technological advancements made at our school. (The Technology Plan is kept on file within the school principal's office and is available for review.)

St. Paul's Catholic School of the Diocese of St. Augustine is located at 428 2<sup>nd</sup> Avenue North, Jacksonville Beach, FL 32250. St. Paul's School serves approximately 600 students in grades PK-8. Of the students enrolled approximately 4% are minorities and 2% are non-Catholic. The financial support of our school is based upon tuition collection and parish support along with school fundraising endeavors. Title II Funds are also available for school use in the area of professional development. St. Paul's Technology Plan is updated annually through the help of the Technology Committee and recommendations from the St. Paul's School Board, PTA, faculty, Network Administrator, and administration of St Paul's Catholic School.

**Year :2002-2003**

<b>Hardware</b>	Ten new computers were purchased (Pentium 4, 1.7 GHZ, 256 MB RAM 20 Gig Hard Drive, 56X CD-ROM, 17 inch LCD flat screen monitors, Operating System Windows 2000).
<b>Software</b>	
<b>Upgrades</b>	Operating system on the lab computers was upgraded to Windows 2000. Seven additional professional licenses were procured (\$2,009.92), 10 licenses for the office had to be purchased (\$735.90) as well as 10 hours of block time for maintenance (\$3,000). The network software filtering package Cyber patrol was purchased (\$894) and we maintain DSL for a yearly fee (\$950). Grade Quick and Administrator Plus were upgraded and we continue our software support contract (\$1,650). The virus protection and yearly licensing (Norton Anti-Virus) was purchased (\$1,000).

**Year: 2003-2004**

<b>Hardware</b>	7 new computers (Pentium 4, 1.8 GHZ, 256 MB RAM 20 Gig Hard Drive, 56X CD-ROM, 17 inch LCD flat screen monitors, Operating System Windows 2000. <u>Two of the computers were equipped with CD-RW capability</u>
<b>Software</b>	
<b>Upgrades</b>	The library was completely automated during the <b>2002-2003 and 2003-2004</b> school year (Follett Software)

**Year: 2004-2005**

<b>Hardware</b>	8 NEW COMPUTERS
<b>Software</b>	
<b>Upgrades</b>	Office staff received new computers; operating systems have been upgraded on some older computers to Windows 2000. Continual upgrading of Administrator Plus/Grade Quick/Norton Anti-Virus/Child Cyber Patrol takes place on an annual basis

**Year: 2005-2006**

<b>Hardware</b>	Four new LCD projectors were purchased and along with the three used LCD projectors, were mounted and placed in seven classrooms. Additionally, the following was also purchased. Admissions Plus, color printer for the lab, 24 new DVD/VCR's, 3 TV's, upgraded Microsoft Office on lab computers, seven new XP computers for various teachers.
<b>Software</b>	
<b>Upgrades</b>	Rediker Software Administrator Plus Contracts purchased along with Discipline Plus.

**Year: 2006-2007**

<b>Hardware</b>	Twelve additional LCD projectors 9 laptops through Title II funds, four new computers in the lab with XP (total of 7 new) United Streaming and Enchanted Learning, speakers for the United Streaming, two new computer drops installed, Accelerated Math Work Station in Science Lab added., new
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	<p>laser printer moved to the office and old laser printer moved to the science lab for the accelerated math program, Computer placed in Clinic, three laptops moved to Pre-K and purchased three printers, new printers purchased for Mr. Tetlow and Ms. Card</p> <p>LCD Projectors and Installation--\$2,400 X 12 = \$28,800</p> <p>12 digital cameras</p>
<b>Software</b>	<p>Microsoft Office – All Computers  Windows NT, Windows 95, Windows 98, XP Operating Systems  Microsoft Exchange (in-house e-mail capability)  External E-mail Accounts (6)  Free E-mail Services Through Internet Utilized by Classroom Teachers  Grade Quick/Administrator Plus (Computerized Report Cards Grades K-8, Scheduling, Discipline, Accounts Receivable, Data Base, Attendance)  Microsoft Publisher  Jump Start Kindergarten (1)  Jump Start First Grade (1)  Jump Start Second Grade (1)  Jump Start Third Grade (1)  Animal Planet – 16  Geo Safari – 16  Treasure Math Storm – 16  Encarta 2000 – 15  Operation Neptune – 5  Math Rabbit – 1  Mavis Beacon Teaches Typing Version 2.0 – (17)  Mavis Beacon Teaches Typing Version 8 (17)  Children’s Encyclopedia (17)  The Magical Adventures of OZ (17)  Reader Rabbit – Miss-cheese-ious Dreamship Adventures (17)  Reader Rabbit- Personalized Reading – Ages 6-9 (17)  Reader Rabbit—Capers on Cloud 9 (17)  Arthur’s Computer Adventures (17)  Jump Start Phonics (17)  School House Rock Math (17)  Kid Pix (17)  Great Math Adventure (5)  Great Reading Adventure (5)  Great Word Adventure (5)</p>

	<p>Jump Start Animal Adventures (5)  Kidworks (17) Math Munchers (6)  Oregon Trail (17)  Robot Challenge (17)  Sim Safari (17)  Word Munchers (17)  Accelerated Math Program – Grades 1-8  Accelerated Reader Program – Grades K-8</p>
<b>Upgrades</b>	<p>Computer part-time teacher moved to full-time. Movie Making course started in middle school. All teachers now on Grade Quick, exporting all grades</p> <p>Renewal of Norton anti-virus--\$824.21  Rediker Software maintenance contract renewed. -- \$3,500  Follett maintenance--\$969.00  Increased student user licensing for Accelerated Math 1-8</p> <p>A camera security system was installed in main school building and outlying buildings—Gym, Family Life &amp; Murphy Hall which was funded by the Church.</p>

**Year: 2007-2009**

<b>Hardware</b>	<p>2 Scanners -Office / Computer Lab  18 Smart Boards  2 Portable Smart Boards  Classroom Computers All brand new XP O.S.  25 LCD Projectors  18 Document Cameras  5 Scanners  -25 DVD Players  Math/Science Lab-2 Laser Printers  11 Laser Printers  10-Digital Cameras  5 sets (32 clickers) Senteo Response Systems  18 Wireless Smart Tablets  Replacement of small teacher printers as needed  5-Lap Tops (staff use)</p>
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	20 Computers
<b>Software</b>	Administrator Plus Skills Administrator Plus Discipline Software Components Upgraded Existing Network Servers Purchased appropriate spyware & pop-up blockers (Baracuda) Purchased and Using Edline for School Website Almost all computers upgraded to XP operating systems Admissions Plus Increased student licensing for Accelerated Math Licensing is now current
<b>Upgrades</b>	

**Year: 2009-2011**

<b>Hardware</b>	
<b>Software</b>	Microsoft Office – All Computers Windows XP-2000 Microsoft Exchange (in-house e-mail) All teachers have external e-mail that can be utilized through Ed-Line Grade Quick/Administrator Plus (Computerized report cards Grades 3-8, Scheduling, Accounts Receivable, Data Base, Attendance) Parish Data System (Accounts Payable & Payroll) Microsoft Publisher (3 ) Jump Start Kindergarten (17) Jump Start 1 <sup>st</sup> Grade (17) Jump Start 2 <sup>nd</sup> Grade (17) Jump Start 3 <sup>rd</sup> Grade (17) Encarta 2000 (17) Mavis Beacon Teaches Typing Version 2.0 (17) Kidworks (17) Oregon Trail (17) Sim Safari (17) Accelerated Math Program – Grades 1-8 Accelerated Reader Program—Grades K-8 United Streaming—License upgrade Much of our software is now accessed on-line.
<b>Upgrades</b>	

**Year: 2011-2012**

<b>Hardware</b>	<p>20 New Computers (Windows 7)  32 Laptop Portable Station with Wireless Internet Connection  All old Accelerated Reader Workstation computers replaced with lab computers (20). Four new computers with Windows 7 (2 in Office, 2 for Teachers)  New Color Printer and Black &amp; White Printer in Lab</p>
<b>Software</b>	
<b>Upgrades</b>	<p>Updated Accelerated Reader Program to Online Version  Updated to Symantec Endpoint Protection (virus)  Updated Barracuda  Accelerated Math Program Online  E-Mail Program for School Database  Added Star Program (Accelerated Reader)  Updating Word on All Teacher Computers This Year  Licensure Updates</p>

**Year: 2012-2013**

<b>Hardware</b>	<p>New Server  Continuing to update All Teacher Workstations with brand new Windows 7 computers (only six teacher workstations left to replace in 2013-14).  Two Elmo Document Cameras purchased  Replaced laser printers in science lab and 5<sup>th</sup> Grade Classroom, &amp; Middle School Math Room (upstairs)  Purchased 5 new digital cameras with tripods  Purchased one new smartboard for 7<sup>th</sup> Grade Homeroom  Purchased two new laptops (floater &amp; Assistant Principal's Office)  Purchased 6 I-Pads for Department Chairpersons  Replaced 5 printers in classrooms  Replaced batteries for laptops Routine Maintenance  Purchased new LCD Projector for 8<sup>th</sup> Grade Homeroom, Science Lab and Reading Lab  Purchased 3 Web Cams for Skyping  Purchased 3 wireless routers  Wi-Fi Schematics drawn for installation during summer of 2013-14</p>
<b>Software</b>	
<b>Upgrades</b>	Software additions for 2012-13

	Upgraded Smart Notebook 2011 Grade Quick Web Destiny Library Total Upgrade to Web (Replaced Follett) Purchased Thistle Design Website Lab Computers Updated with Pivot Program, etc. E-Mail Upgraded
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**Year: 2013-2014**

<b>Hardware</b>	30 iPads for teachers, 22 Apple TVs, Wireless printer Hub, 90 iPads on order, 3 charge carts on order, 1 Mac on order, Scanner for Math Room, 9 new computers to replace old XP computers and increase the number in lab, Wireless router for PK, 2 new document cameras Elmo, 2 new laser printers one black and white, one color for hub, New Follett scanner for Hub, 5 new speakers, 2 iPad document camera stands, USB charging tower, 2 new projectors, replaced 2 projectors, 2 donated iPad, Laptop donated for Lego Robotics 3 Squares for credit cards
<b>Software</b>	New security system software, Follet Destiny safe search engine (Web Path Express) for teachers and students, E-Catholic, Rediker Upgrade, Expanded Brain POP website subscription, Purchased Apps, Lego Robotic Software License, Planbook for lesson plans, Thistle Girl Design, SplashTop
<b>Upgrades</b>	Wi-Fi Infra-structure was added throughout the building. Going wireless will enable St. Paul's to add iPad, tablets and additional laptop computers for classroom instruction.  All lesson plans, department meeting notes and communications are submitted electronically.
<b>Instruction</b>	Laptop utilization includes: Star Math Tests, LearnZillion.com (individually assigned lessons: videos, practices), CK12 website--online textbook with video lessons, games and practice tests, data research for central tendencies, research, and student publishing. Smart board activities include: Interactive games, math activities, cursive writing practice, digital activities, e-math books, and interactive science simulations.  iPads/Apple TV's include: Educational apps, AR testing, publishing, student created audio/visual lessons, video and tutorial productions, QR codes.  Global learning opportunities include : Virtual field trips-Google Earth, Google Sky, Plymouth Plantation, Globe
<b>Student Use</b>	PowerPoint presentations, audio/visual productions, internet activities, peer editing to demonstrate knowledge of content areas  Middle school science has experienced a significant change in interactive and hands-on assessment. Students create experiments and innovative projects weekly including pH testing, speed and motion activities, construction of earthquake proof houses. Field Study whereby they identified different rocks based on the characteristic of igneous, sedimentary, or metamorphic. Students kinesthetically modeled the steps of mitosis as well as the steps of virus entry into a cell. Students dissected various specimens.  Student projects/assessments representing 21 <sup>st</sup> century learning strategies are as follows:

	<p>-School-wide: Hour of Code (learning basics of computer programming) 8<sup>th</sup> Grade: MS Excel and MS PowerPoint (PPT). Major PowerPoint presentation. Various spreadsheet activities.</p> <p>7<sup>th</sup> Grade: Create databases and create reports using MS Access.</p> <p>6<sup>th</sup> Grade: Internet research to write reports, personalized form letter, editing/replacing text, how to type a report and center clipart, history of computers project</p> <p>4<sup>th</sup> grade: Florida history timeline in MS PowerPoint, research utilizing Florida On-line library, Saints PowerPoint.</p> <p>3<sup>rd</sup> Grade: Google Earth projects on Exploring North America, Photosynthesis animated picture, MS PowerPoint.</p> <p>2<sup>nd</sup> Grade: Penguin Butterflies/Symmetry, Bat facts PPT, M&amp;Ms spreadsheet with graph, President research and facts, Personal letter in MS Word, Bookmarks in MS PPT</p> <p>1<sup>st</sup> Grade: Ocean animal research, Brain Pop games to augment lessons with dinosaurs, identifying tooth parts in SMART Notebook, greeting cards in MS Publisher,</p> <p>Kindergarten: Electronic puzzles to master mouse skills, games that reinforce lessons in classroom, practice math skills.</p> <p>Digital Media Grade 7: Photography, Alphabet photography project, Stop Motion animation</p> <p>Digital Media Grade 8: Halloween animated story in MS PPT, Web page, Movies in Windows Live Movie Maker, Digital wiring project, 8<sup>th</sup> grade video. SCRATCH programming to create an animation. Create Android app for a phone.</p>
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Year 2014-2016

<p><b>Hardware</b></p>	<p>Procurement of 90 iPads for student use throughout all grade levels :</p> <ul style="list-style-type: none"> <li>-30 iPads to be used as centers in Grades K-2</li> <li>-30 iPads to be shared in grades 3-5</li> <li>-30 iPads to be shared in the POD</li> <li>- 200 iPads for Middle School 1to1 deployment</li> <li>-Added 2 laser printers in the Hub</li> <li>-Added 1 laser wireless printer in the HUB</li> <li>-Added check in and checkout App for Follett Destiny in the Pod</li> <li>-4 window laptops for the Fast-forward Program</li> </ul>
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	<ul style="list-style-type: none"> <li>-11 more Windows desktop computers in the Hub</li> <li>-Added 2 Mac Book Pro laptops for iPad deployment</li> <li>-Transition from document camera to document camera iPad stands</li> <li>-Upgraded the sound system in the cafeteria</li> <li>Upgraded teacher iPads to iPad airs</li> <li>Continuous upgrades to teacher work stations.</li> </ul>
<b>Software</b>	<ul style="list-style-type: none"> <li>-Created Schoology account for 6<sup>th</sup> -8th grades</li> <li>-Add Profile Manger software to the Mac Book Pro for iPad management</li> <li>-Installed 110 apps on iPad mostly free some paid</li> </ul>
<b>Upgrades</b>	<p>Implementation of the Rediker Administrator Plus and Admissions Pro program (July, 2014) for all admissions, registration and record keeping. All information will now be in the Cloud. Implementation of the RenWeb Grading, Communications, Administration and Admissions Pro program (July, 2016) for all admissions, registration and record keeping. . Parent/student/teacher portals available October 2016.</p> <p>Implementation of new teacher, student, parent portal (August 2014.), and again ( August 2016)</p> <p>New Website Design via E-Catholic</p> <p>Renovation of the current computer lab and library to ensure best use of space and provide an infrastructure for future iPad and laptop acquisitions. New Middle School Media Center, “The Hub” opened August, 2014.</p> <p>Collaborative furnishing procured for new Hub and elementary media center.</p> <p>Family and faculty handbooks were revised to include technology integration and policy and are now electronic.</p> <p>Robotics club created (2013) and competes (2014). Stem club for girls- Digital programming/3-D printing (2015)</p> <p>Elementary Media Center (POD) opens 2015. Media Specialist is hired for POD</p> <p>On-line/paperless registration and communications for parents ( January 2016)</p> <p>Upgraded several ceiling projectors to brighter digital projectors</p> <p>Upgraded to Microsoft Office 2016 on all computers</p>
<b>Instruction</b>	IXL for grade 4 LA and Mathematics, Grades 6-8 Mathematics S
<b>Student Use</b>	Prezi, Keynote, Schoology, Pages
<b>Applications</b>	Stack the States, ABC Mouse, Brain Pop, Bible for Kids, Show Me, Spelling City, Schoology, Math Mateer, Sushi Monster, Accelerated Reader, Renaissance Start Testing, Montessori #'s, Newsela, Keynote, Quick Math, Nearpod, Popplet, Timeline, Student News Daily, Notability, Google Earth , Win the White House, Do I have a Right, Mission US, Ripped Apart, Book Press, Front Row, I Learn-

	States/Countries, Writing Wizard, Montessori Words, Ibrainy Math, Ibrainy Numbers, Sentence Maker, Base Ten Math, Iwritewords, Handwriting, Dolch Sight Words, Writing Pad, Ask me colors, Ask me shapes, Newsomatic, QUickmath, Readtheory, class dojo, biblionasium, Duolingo, Quizlet, Socrative, Cursive Letter Practice
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Year 2017-18

<b>Hardware</b>	<p>Added 100 new iPads for Elementary School</p> <ul style="list-style-type: none"> <li>- Each grade, K – 5 shares 30 iPads</li> </ul> <p>New laser printer for 4<sup>th</sup> grade AR tests</p> <ul style="list-style-type: none"> <li>- Added an AR scanner to the 4<sup>th</sup> grade classroom</li> </ul> <p>New printer and computer for the Middle School Learning Coach</p> <p>New sound system in cafeteria</p> <p>New phone system</p>
<b>Software</b>	<p>Installed 69 new apps for the middle school and elementary iPads</p> <p>Upgraded our Splash Math subscription</p> <p>Added more classrooms to Vocabulary Spelling City</p> <p>Complete redesign of the school website</p> <p>Tested a new printer monitoring software to establish in the 2018-2019 school year</p> <p>Established all teachers and all students (grades 2 – 8) in G Suite for Education</p>
<b>Upgrades</b>	<p>Upgraded Splash Math Subscription</p> <p>G Suite for Education Certification</p>
<b>Instruction</b>	<p>IXL for grades 6-8 and 4</p> <p>Vocabulary Spelling City for Grades K – 5</p> <p>Splash Math for Grades 1-2</p> <p>Enchanted Learning for Grades K-5</p> <p>Brain Pop for Grades K-5</p>
<b>Student Use</b>	Prezi, Keynote, Google docs, Google Slides, Notability, Pages, Microsoft Word, Excel, Powerpoint, iMovie, ShowMe, Kahoot
<b>Applications</b>	<p>AccReader, Adobe Slate, Ask Me Shapes &amp; Colors by Eggroll Games, Base Ten Blocks Math (by Tapfun, Inc), Beginning Sounds Sound Sorting, Bible, Bible for Kids, Billy Bug (quest for Grub), Bookemon bookPress, BrainPop, BrainPopJr, Count to 100, Cursive Practice, DAQRI - augmented reality app, Do I Have a Right?, Don't Let the Pigeon run this app, Duolingo - Learn Languages (Prio 3), Encyclopaedia Britannica, EPIC! Unlimited Books for kids, Executive Command, Fast Forward Language, Fast Forward Reading, First Grade Splash Math, Front Row Math, Google Calendar, Google Classroom, Google Docs, Google Drive, Google Earth, Google Keep, Google Sheets, Google Slides, Grade 2 Splash Math, Grade 3 Splash Math, Hopscotch: Make games!, iBrainstorm, iBrainy 3 Easy Math Steps to Number Sequence, iBrainy Fun Math Addict Ed, iLearn Continents &amp; Oceans, iLearn: US States, iMovie, i-nigma, Instragrok, Iwrite Words, IXL-Math and English, Jigsaw Collection HD, Jungle Coins, Jungle Time, Kahoot, Keynote, Kids Writing Pad (30), Learn</p>

<p>Languages: Rosetta Stone Spanish (Prio5), Learn Spanish - greg vick, Learn spanish for Beginners (Prio1) (30), Learn Spanish Free: Phrases &amp; Vocab (by Bravolol), Literary Analysis Guide, Math Bingo, Mathmateer, McGraw-Hill K-12 ConnectED app, Merriam-Webster Dictionary HD, Montessori Crosswords by La Escapadou, Montessori Numbers Learn to Count by La Escapadou, My First Bible Games and Movies, National Geogrpahic Kids Scanner, Nearpod, News-o-matic for schools, Noteability, Numbers, Padlet, Pages, Painless Spanish Challenge - (Prio6), Phonics Tic Tac Toe, Planner-myHomework, Popplet Lite, Prezi Lite, Quick Fractions, Quick Math – Multiplication, Quick Math + games, Quiver -3D coloring - works with augmented reality app, Quizlet, Reading Progress Indicator, Ripped Apart: A civil War Mystery, Rory's Story Cubes, Rosetta Stone Kids Lingo Letter Sounds, RWT Timeline, Scholastic News Magazine, Schoology, Securly, Sentence Maker, ShowMe, Sight Words - Dolch by Havoc, SkyView, Socrative Student, Spanish Crossword Puzzle for kids, Spanish Verb Coach, Sparky's Birthday Surprise, Spelling City, Stack the Countries, Stack the States, STAR Renaissance Learning, Sushi Monster – Math, Teacher Says Handwriting, TeachMe: first grade, The Calculator, Tiny Tap, Toca Lab, Todo math, Touch and Write Phonics, Win the White House, Word Bingo, Word Wizard, Writing Wizard by La Escapadou</p>
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**Professional Development:** The faculty of St. Paul’s Catholic School continues to strive to meet the diocesan requirements by completing Course 1-001, Course 1-002, Course 1-003, Course 1-004 and Course 1-005. Our Computer Network Administrator keeps faculty members current in training requirements.

2005-06—Grade Quick Workshop

2005-06—Digital Camera Teacher Workshop paid for through Title II Funds.

2006-07 Refresher Course for Digital Camera Use

2006-07—Laptop Workshop

2007-08 - Smart-Board Workshops & Ed-Line Training

2008-09—Senteo Response System Workshops & Smart-Board Workshops, Digital Camera Workshop, Interactive Response System Workshop for ITBS

2009-10—Microsoft Word Mini Workshops

2010-11—Individual Teacher Workshops & Help Sessions

2011-12—Tech Training Monthly by Computer Teacher (Areas of Teacher Interest)

2013-14---

- iPads for Learning in Special Ways (2/4/2014)
- iPad Innovation (FT. Lauderdale)
- Apple/iPad training at Bishop Kenny High School
- FETC 2014 - Orlando (1/2014)
- UNF Summer iPad Academies(6/2014)
- ISTE -(6/2014) (Administration and Technology Coordinator)
- Additional In-House Training: iPad startup and app download, DROP BOX, Apple TV, PowerPoint

2014-15---

- Webinars on new grade book, teacher portals, Rediker program, Individual iPad training
- ISTE

2015-2016

- ISTE
- Ed-Spaces Educational Technology Spaces
- FETC
- Schoology
- Professional Development for faculty and staff to include: Rediker, Grade book, portals, and iPad applications and integration.

2016-2017

- Keynote, Schoology, RenWeb implementation
- FETC

2017-2018

- Google Docs
- Google educator
- FETC
- ISTE
- Ed-Spaces Educational Technology Spaces

**Lesson-planning incorporating Technology:** Faculty Members will integrate technology in all aspects of lesson planning. The Network Administrator assists classroom teachers in accessing various web sites and applications for integrating technology into their existing curriculum and utilizing existing programs and equipment available within the school.

**Student Applications:** Students of St. Paul's Catholic School utilize a variety of technological tools throughout all curriculum areas. Students also study an intensive computer curriculum designed by the Diocese with specific objectives designed for each grade level.

### III. CURRENT NEEDS ASSESSMENT

St. Paul's School continually establishes long-term and short term goals for infrastructure, hardware, software, in-service, and support in order to achieve the goals described in our Mission Statement as well as the standards and benchmarks in the Florida Catholic Conference and Diocesan Technology Curriculum. St. Paul's School will conduct an annual needs assessment. The assessment will include but not be limited to:

- Students' learning needs and interests
- Inventory of current computers and other technological equipment in classrooms, computer labs, and/or media centers
- Availability of on-site and off-site technical support
- Quality of in-service opportunities available to all school personnel (administrators, teachers, and business office personnel)
- School funding for technological equipment, infrastructure costs, technology maintenance, and in-service
- Inventory of technological classroom management software, communication technology, classroom curriculum resources, and media center resources

- Qualifications/experience of personnel responsible for student lab or media center activities
- Uses of technology for remediation, new concepts, and research
- Monitoring of appropriate and effective student application of technology skills in class work
- Student assessment data
- Enforcement of internet filtering and the implementation of Internet Use Policy

St. Paul's Catholic School continuously analyses information on planning, budget, policies, resources, technical and instructional support, teacher and student skills, classroom use, community involvement, professional development, and how technology affects classroom activities.

We will ensure our curriculum is a curriculum for the 21st century learners with the following critical attributes: it is interdisciplinary, [project-based](#), relevant, rigorous and real-world. It must utilize authentic assessment, 21st century skills and illiteracies, global competencies, technologies and multimedia, and be inter-related.

#### SHORT TERM GOALS:

- Procurement of on-line text books
- Expanding curriculum to a global classroom
- Collaborative classroom programs: blogging, emodo, etc.

#### LONG TERM GOALS:

- Online course offering

## IV. PROGRAM DEVELOPMENT

The Technology Committee agrees that the school's technology plan and program goals should be developed through a collaborative effort of administration, staff, and school board to connect the school technology objectives/skills with the school's academic agenda.

The St. Paul's Catholic School Technology Plan includes, but is not limited to 1) a review process of teacher use of technology to enhance instruction and to manage student-learning data, 2) the systematic review of the integration of technology-centered teaching and learning activities in lesson plans across academic disciplines, and 3) a review of possible technology-related stakeholder feedback relevant to the school's self-study process.

## V. PROCUREMENT PLAN

St. Paul's Catholic School has established a revolving 5-year timeline for maintaining and upgrading the basic infrastructure, hardware, and software needs of the school to enable us to achieve plans and program goals.

## VI. FUNDING

6.1 The school principal is responsible for monitoring his/her school's efforts to meet the established goals in a timely manner.

- 6.2 St. Paul's Catholic School will fund their technology program through fees and various fundraisers: a technology fee of \$200 per student annually ( \$400 for middle school students which includes iPad rental)
- 6.3 Title II Funds are utilized as they become available primarily for professional development.
- 6.4 The school principal is responsible for encouraging his/her pastor to update facilities and to seek business partnerships and/or parental support in order to fund technological development.

## VII. TECHNOLOGICAL ACQUISITION

In order to implement the goal of preparing the students we serve to meet the challenges of global citizenship and 21<sup>st</sup> century learners, St. Paul's Catholic School will agree to:

- formulate guidelines to update technological resources in sufficient quantities to accommodate teacher and staff in-service for St. Paul's Catholic School.
- ensure periodic assessment of the technology in-service needs of teachers and staff members.
- ensure appropriate assessments are conducted of teacher and staff awareness and use of technology in-service.
- ensure that St. Paul's maintains an ongoing commitment to:
  - continual updating of infrastructure, equipment, and professional development to ensure the infusion of future technologies.
  - budgeting for maintenance and technical support
  - proactive planning

7.5 obtain the appropriate technological goods, services, and training as quickly as possible. Paragraph 7.5.1 through 7.5.3 define and illustrate three technology acquisition levels (Basic, Preferred, and Advanced) as reference criteria by which we may conduct an annual needs assessment to determine current status.

7.5.1 **Basic Technology** acquisition is defined as:

- a) at least one computer station for one-fifth of each classroom population or at least one computer resource lab of 25 stations for each 500 students to support current software, including CDs, with accompanying sound and video capabilities.
- b) access to computerized instruction (in addition to learning computer terminology and use) for each student in grades kindergarten through grade 8 should include, but is not limited to, word processing, database creation and use, multimedia presentations, spreadsheet creation and use, and internet research.
- c) compliance with Diocesan technology minutes per week.
- d) age-appropriate understanding and use of basic educational technologies, such as simple calculator functions as a supplement to mathematical instruction in all grades, portable storage devices, online communication content, audio resources, CDs, DVDs, and other communication tools.
- e) ability of administrators, teachers, and of other professional members of the school staff to complete electronic correspondence, classroom tests and handouts; use an electronic grading and attendance program; and integrate other appropriate teacher-led online, multimedia, and/or interactive technologies in classroom presentations.
- f) formulates a plan and budget for evolving technology infrastructure needs.

### **7.5.2 Preferred technology**

- a) at least one computer station for one-fifth of each classroom population and one computer resource lab, stationary or mobile, of 25 stations for each 500 students to support current software and online multimedia capabilities.
- b) an Internet-connected computer with projector and/or large screen display to enable the teacher to integrate technology into classroom presentations visible to the entire class. This technology is available in each classroom or in the school's computer lab on a scheduled basis.
- c) teacher and student integration of computerized software and other technologies to create teacher and student presentations, reports, and research.
- d) compliance with Diocesan technology minutes per week.
- e) developmentally appropriate student use of interactive technology in all subject areas.
- f) administrator, teacher, and other professional staff member competence, in addition to mastering the basics of technology to include: (a) use of interactive online resources to communicate to students; and (b) use of web content to create integrated lesson plans.

### **7.5.3 Advanced technology**

- a) at least one computer station for one-fifth of each classroom population and one computer resource lab, mobile or stationary, of 25 stations for each 500 students available throughout the school day for individualized computerized instruction and/or entire class use to support current multimedia technology.
- b) an Internet-connected computer with projector and/or large screen display in each classroom, to enable the teacher to integrate technology into classroom presentations visible to the entire class.
- c) teacher integration of appropriate technologies, in addition to technology skills mastered in the basic and preferred levels, into classroom use to include, but not be limited to, interactive multimedia hardware, interactive multimedia devices, appropriate curriculum simulations, audio enhancements, and digital cameras and recorders.
- d) compliance with Diocesan technology minutes per week.
- e) student use of appropriate technologies in the classroom to include, but not be limited to, interactive multimedia devices, appropriate curriculum simulations, audio enhancements, and digital cameras and recorders to create original student produced work.

## **VIII. SHARED USE**

- We have distributed the diocesan written policy that targets the ethical use of technological resources, which includes, intellectual property rights of work produced by teachers and students using technology, licensing agreements, and a specific policy of Internet and intranet network use to families via the school handbook and website.

- St. Paul's School has benefited from the diocesan support of public and private technology partnerships.

#### **IX. ACCESS**

- Faculty and staff are asked to list specific software and other resources needed yearly. St. Paul's Network Administrator will monitor requests and review purchases to insure the materials requested will support teaching and learning at the classroom level.
- The Network Administrator works with faculty and students by addressing the contents of the acceptable-use policy to ensure students are using the internet/world wide web safely and effectively.
- The Network Administrator has taken appropriate measures to ensure the security and protection of administrative confidential information stored on our network through the use of individual user passcodes for staff members and the majority of students.

#### **X. SECURITY**

- The Network Administrator has a system to maintain technological protection of the confidentiality of teacher, parent, and student records through the use of individual passcodes.
- The Network Administrator has a system to maintain the integrity of systems, programs, and information resources by ensuring all students and faculty members sign and agree to adhere to the Diocesan Internet Policy. St. Paul's School follows all copyright laws and obtains site licenses for all software use.
- The Network Administrator maintains a serial number file and numbering system to help ensure the physical security of equipment and systems. Hardware will be assigned numbered codes and labeled to aid in recovery in case of theft.
- The Network Administrator has an Internet and web content filter (barracuda) appropriate for the mission of St. Paul's Catholic School.

#### **XI. MINIMUM FUNCTIONALITY PLAN (K-8)**

St. Paul's Catholic School agrees to:

- 11.1 Implement the diocesan policy which establishes minimum technological resources and use, PK-Grade 12. This policy (Technology Plan) includes specific criteria previously outlined in paragraph 7.5.1 through 7.5.3 of the Technology Acquisition Plan section.
- 11.2 Encourage and support regular progress toward attaining the goals established by the school. Information set forth in paragraphs 7.5.2 (Preferred Technology) and 7.5.3 (Advanced Technology) is used as a basis for advancing technology plan goals.

#### **XII. USER SUPPORT PLAN**

- 12.1 We agree to support technological education in our school by planning acquisition of programs and software to match curricular needs.
- 12.2 We agree to support technological education in our school and have developed a plan for budgeted network management.
- 12.3 We agree to support technological education in our school by incorporating short-term and long-range plans for budgeted equipment maintenance and replacement.

#### **XIII. PROFESSIONAL DEVELOPMENT**

St. Paul's Catholic School agrees to establish an on-going program of professional development addressing the integration of technology into curriculum and curriculum-management decisions through the following:

- Require that all faculty members meet or exceed established proficiency levels at the diocesan level.
- Provide adequate resources for faculty/staff professional development
- Identify appropriate and feasible technology-based delivery systems for faculty/staff professional development
- Coordinate training and support within diocesan guidelines.

#### **XIV. PROGRAM EVALUATION**

St. Paul's Catholic School agrees to implement:

An annual evaluation program which assesses minimum teacher proficiency levels of technology use, methods to attain the required levels, performance benchmarks for professional personnel, and provision of remediation in-service when necessary.

- The evaluation of technological skills of teachers new to the school and the provision of appropriate in-service for those who do not meet the require proficiency levels. This is in keeping with the minimum competency for professional certificate which reads, "...use appropriate technology in teaching and learning processes."
- The evaluation of the specific use and integration of appropriate technological resources in the curriculum and the provision of remediation to professional personnel when necessary.
- The evaluation of the technological expertise appropriate for staff personnel and the provision of remedial in-service when necessary.
- The encouragement of St. Paul's to use the information gained as a result of 14.1-14.4 in conjunction with its self-study reviews of any accreditation standards that incorporate technology across the curriculum.

#### **XV. LEARNER ASSESSMENT**

St. Paul's agrees to:

- Develop an assessment plan which evaluates student access and use of technology to enhance learning and productivity across the curriculum, methods of attaining proficiency, and performance benchmarks for students at each grade level from PK-Grade 12, and remediation when necessary.
- Review and discuss the technology curriculum standards and benchmarks (attached) and adopt those standards deemed appropriate.
- Evaluate student access and use of technology to enhance learning and productivity across the curriculum.
- Evaluate the collection and analysis of student learning assessment data.

#### **XVI. DISSEMINATION**

St. Paul's School, through the help of their Pastor, Principal, School Board, Technology Committee, and expertise of their Network Administrator will take responsibility for the implementation and follow-up of this Technology Plan. We agree to use technology as a tool to improve communication of information to all stakeholder groups.

# Technology Plan Goals and Strategies 2013-2017

**GOAL 1: Curriculum Integration: Improve student academic achievement through the use of technology in grades Pre-K4 through 8.**

- a. Expand media research department personnel to two EMIT specialists and one Information Technology Administrator.
- b. Require teachers to design and implement lesson/unit plans featuring technology integration.
- c. Improve student technology literacy in all grades
- d. Ensure EMIT specialists and teachers have common planning time to collaboratively plan units and schedule appropriate media research time to meet the needs of the curriculum.
- e. Continue incorporating high-quality digital resources such as video streaming and web technologies.
- f. Research and adopt content curricular resources and online textbook materials.
- g. Infuse technology to improve achievement in reading and writing through the use of digital storytelling, multimedia, video documentaries, audio books, eBooks and other resources.

**GOAL 2: Professional Learning: Ensure that all educators are proficient in the use and integration of technology and ongoing professional development activities are provided.**

- a. Train Administrators on a "Technology integration" evaluation instrument for classroom observations.
- b. Develop and implement a technology assessment for administrators and teachers to identify training needs.
- c. Continue to offer a wide range of technology training opportunities on technology integration best practices.
- d. Develop standardized "new staff" technology curriculum and training plan.

**GOAL 3: Equitable Access: Ensure that all Pre-K-8 classrooms have access to equipment to meet academic needs for effective and efficient operations.**

- a. Ensure all classrooms are Wi-Fi accessible.
- b. Research, pilot and implement flexible access to mobile devices such as Net books, I-Pads, Chrome books and laptops.
- c. Provide availability to classroom sets of digital cameras, video streaming library, eBooks, and audio books.
- d. Maintain replacement and upgrade cycle for desk computers and laptops.
- e. Research best use of space regarding media research areas, remodel and upgrade as needed.
- f. Research, pilot and implement Learning Management Systems, student emails, etc.
- g. Improve student access to portable and wireless technology devices such as laptops, i-Pads and classroom performance systems.
- h. Research, fund, and implement a 1:1 iPad program in designated grades.

**GOAL 4: Evaluation: Develop a continuous process of evaluation and accountability for the use of educational technology as a teaching and learning tool, and a measurement and analysis tool for student achievement.**

- a. Continually evaluate the success and progress of the Technology Plan based on changing environments. Technology Plan Committee meets yearly to review progress of the plan.
  - a. Monitor assessment data and review lesson/unit plans to ensure alignment to diocesan standards.
  - b. Continue enforcement of security procedures including password security, Internet filtering, etc.

**GOAL 5: Funding: Develop a plan of current and future technology financing requirements to support the SPCS Technology Plan.**

- a. Fully pursue funding avenues through e-rate, grants, capital and operating funds.
- b. Budget accordingly in the annual budget for technology advancement
- c. Explore additional grant opportunities and alternative sources of funding (donations)
- d. Explore alternative funding sources through partnership with PTA and Booster Club.

**GOAL 6: Telecommunications: Develop a telecommunications services plan to support both instructional needs and administrative needs.**

- a. Implement a school-home communication system for parent alerts including attendance, school activities, and special information.
- b. Improve web communications including improving web content management system and increase use of web tools such as web 2.0 tools- wikis, blogs, discussion forums, social networking, and other tools.
- c. Evaluate and upgrade, as needed, information systems (student information system, email, school website).

## **Teacher Competencies and Training:**

To effectively implement and use technologies, teachers must be provided with appropriate training. A formal needs assessment to determine school-wide and individual training topics is warranted.

### **Teaching & Learning:**

- Use of multimedia and digital video resources and programs to differentiate instruction and enhance learning.
- Use productivity software including electronic graphic organizers, Word, Excel, PowerPoint and other programs to create high quality materials for teaching.
- Use of project-based and problem-based learning to enable students to participate in authentic, meaningful activities to engage them in deeper investigations. Assist students in accessing and evaluating information, synthesizing and producing a presentation to display their work.
- Use of quality online resources to guide students in the research process.
- Provide training on integration of technology.
- Use a learning management system to provide paperless communication between students/teachers and to collaborate and share ideas with other teachers.
- Use of emerging technologies such as podcasting to motivate and infuse technology in creative ways.

## **Use of Telecommunication:**

- Use of telecommunication services, discussion boards, blogs and other methods to share and collaborate with other educators.
- Use of web content management system to improve communication with parents and community.
- Participate in e-learning opportunities and virtual schools through the World Wide Web including global projects.

## **Professional Learning:**

School Technology Team – This team will work to ensure that the Technology Plan is implemented successfully at the school level while determining professional development needs of the school.

Educational Media Instructional Technology Specialist- The EMIT is responsible for maintaining an appropriate collection of technology, books, periodicals, computer software, educational media, and media equipment. The EMIT is a resource for fostering media literacy, projects and technological curriculum development of both faculty and students for grades Pre-K4 through 8. The EMIT will maintain and manage technology equipment including computers, laptops, and iPads. This will include maintenance, trouble shooting, and software management, syncing, and charging as necessary. The EMIT will serve as expert resource for both faculty and students for internet research and instructional apps for the iPad. The EMIT provides the school with leadership on new technologies as they are continuously trained in the use of new systems and programs. In addition, the EMIT will provide curriculum technology integration coaching and with the help of the classroom teacher will create guides for student learning.

“Peer Leaders” – The school will identify experts to help colleagues with new systems, programs and emerging technologies. By providing in-house experts, the school community will benefit from collegial sharing and the building of capacity.

## ***Technology Standards for Teachers:***

To successfully implement and integrate technology, teachers must feel comfortable with the use of technology. The expectations for teachers will follow the National Educational Technology Standards for Teachers developed by ISTE (International Society for Technology Education). The six standards include:

1. Teachers demonstrate a sound understanding of technology operations and concepts.
2. Teachers plan and design effective learning environments and experiences supported by technology.
3. Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning.

4. Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies
5. Teachers use technology to enhance their productivity and professional practice.
6. Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in schools and apply those principles in practice.

### **FCC Technology Foundation Standards for Students**

The technology foundation standards for students are the *National Educational Technology Standards for Students (2007)*, published by the International Society for Technology in Education (ISTE), NETS Project and are reprinted with permission. They are divided into six broad categories. Standards within each category are to be introduced and reinforced at developmentally appropriate intervals, ultimately leading to student mastery. These categories provide a framework for linking the performance indicators found within the Benchmarks for Technology-Literate Students (pages 8-10) to the standards. Teachers can use these standards and profiles as guidelines for planning technology-based activities in which students achieve success in learning, communication, and life skills.

1. Basic operations and concepts:
  - a) Students demonstrate a sound understanding of the nature and operation of technology systems.
  - b) Students are proficient in the use of technology.
2. Social, ethical, and human issues:
  - a) Students understand the ethical, cultural, and societal issues related to technology.
  - b) Students practice responsible use of technology systems, information, and software.
  - c) Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.
3. Technology productivity tools:
  - a) Students use technology tools to enhance learning, increase productivity, and promote creativity.
  - b) Students use productivity tools to collaborate in constructing technology-enhanced models, preparing publications, and producing other creative works.
4. Technology communications tools:
  - a) Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.
  - b) Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.
5. Technology research tools:

- a) Students use technology to locate, evaluate, and collect information from a variety of sources.
  - b) Students use technology tools to process data and report results.
  - c) Students evaluate and select new information resources and technological innovations based on the appropriateness to specific tasks.
6. Technology problem-solving and decision-making tools:
- a) Students use technology resources for solving problems and making informed decisions.
  - b) Students employ technology in the development of strategies for solving problems in the real world.

### **Benchmarks for Technology-Literate Students Grades PK – 2**

All students should have opportunities to demonstrate the following performance indicators prior to completion of Grade 2. Numbers in parentheses refer to the standards category (c.f. p. 7) to which the performance is linked. Students will:

1. Use input devices (e.g., mouse, keyboard, remote control) and output devices (e.g., monitor, printer) to successfully operate computers, VCRs, audio tapes, telephones, and other technologies. (1)
2. Use a variety of media and technology resources for directed and independent learning activities. (1, 3)
3. Communicate about technology using developmentally appropriate and accurate terminology. (1)
4. Use developmentally appropriate multimedia resources (e.g., interactive books, educational software, elementary multimedia encyclopedias) to support learning. (1)
5. Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom. (2)
6. Demonstrate positive social and ethical behaviors when using technology. (2)
7. Practice responsible use of technology systems and software. (2)
8. Create developmentally appropriate multimedia products with support from teachers, family members, or student partners. (3)
9. Use technology resources (e.g., puzzles, logical thinking programs, writing tools, digital cameras, and drawing tools) for problem solving, communication, and illustration of thoughts, ideas, and stories. (3, 4, 5, 6)
10. Gather information and communicate with others using telecommunications, with support from teachers, family members, or student partners. (4)

### **Benchmarks for Technology Literate Students Grades 3 – 5**

All students should have opportunities to demonstrate the following performance indicators prior to completion of Grade 5. Numbers in parentheses refer to the standards category (c.f. pp. 9-10) to which the performance is linked. Students will:

1. Use keyboards and other common input and output devices (including adaptive devices when necessary) efficiently and effectively. (1)
2. Discuss common uses of technology in daily life and advantages and disadvantages those uses provide. (1, 2)

3. Discuss basic issues related to responsible use of technology and information; and describe personal consequences of inappropriate use. (2)
4. Use general purpose productivity tools and peripherals to support personal productivity, to remediate skill deficits, and to facilitate learning throughout the curriculum. (3)
5. Use technology tools (e.g., multimedia authoring, presentation, web tools, digital cameras, and scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom. (3, 4)
6. Use telecommunications efficiently and effectively to access remote information and communicate with others in support of direct and independent learning and for pursuit of personal interests. (4)
7. Use telecommunications and online resources (e.g., email, online discussions, web environments) to participate in collaborative problem-solving activities to develop solutions or products for audiences inside and outside the classroom. (4, 5)
8. Use technology resources (e.g., calculators, data collection probes, videos, educational software) for problem-solving, self-directed learning, and extended learning activities. (5, 6)
9. Determine when technology is useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems. (5, 6)
10. Evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources. (6)

### **Benchmarks for Technology Literate Students Grades 6 – 8**

All students should have opportunities to demonstrate the following performance indicators prior to completion of Grade 8. Numbers in parentheses refer to the standards category (c.f. pp. 9-10) to which the performance is linked. Students will:

1. Apply strategies for identifying and solving routine hardware and software problems that occur during everyday use. (1)
2. Demonstrate knowledge of current changes in information technologies and the effect those changes have on the workplace and society. (2)
3. Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse. (2)
4. Use content-specific tools, software and simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools) to support learning and research. (3, 5)
5. Apply productivity/multimedia tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum. (3, 6)
6. Design, develop, publish and present products using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom. (4, 5, & 6)
7. Collaborate with peers, experts, and others using telecommunications and collaborative tools to investigate curriculum-related problems, issues, and information, and to develop solutions or products for audiences inside and outside the classroom. (4, 5)
8. Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems. (5, 6)

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