**GROWING TECHNOLOGY AT**

**SPRING HILL ELEMENTARY**

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**Sharing the vision**

**TEAM TECHNOLOGY PLAN**

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**SPRING 2010 \* EDTC 630 \* Dr. Donovan**

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**A. NEEDS ASSESSMENT** [**(return to contents)**](#home)

* **Demographics** - Spring Hill Elementary is located Fairfax County, in Northern Virginia outside of the Nation’s Capital. The school population is ethnically diverse. According to the Fairfax County Public Schools website the school is about 26% Asian, 1 % Black, 4% Hispanic, 63% white, and 6% other. The school is located in an affluent community where there is little socioeconomic diversity. The school is large with about 1,000 students ranging from grades Kindergarten to Sixth. There is about a 12% special education population but, only about 13 students are self contained within a special education classroom. About 15% of the students are English Language Learners. Many of these children are from embassies and will only be in the States for two or three years. Out of 1000 students only about 2% of them are on free or reduced lunch.
* **Current Classroom and Teacher Designations** -
	+ 2 Kindergarten - 2 classrooms
	+ First Grade - 5 classrooms
	+ Second Grade - 5 classrooms
	+ Third Grade - 6 classrooms
	+ Fourth Grade - 5 classrooms
	+ Fifth Grade - 6 classrooms
	+ Sixth Grade - 5 classrooms
	+ Self-contained Special Education
	+ Two teachers move within the third through sixth grade levels, so in general, there are the same amount of teachers each year.
* **Current** [**Staff Structure**](http://schoolprofiles.fcps.edu/schlprfl/f?p=108:11:1899799954024416::NO::P0_CURRENT_SCHOOL_ID:018) **- Total 65 located as follows**
	+ Regular Classroom teachers (above) - 35
	+ Science - 1
	+ Reading - 1
	+ Gifted - 1
	+ Gymnasium - 2
	+ Music - 3 Orchestra- 2
	+ Technology - 3 Library - 2
	+ ESOL - 2
	+ Administration - 3
	+ Guidance - 2
* **Current Classroom and other Student Technology** -
	+ Media Center 5 Desktop Computers
	+ School has a desktop computer lab that each primary class visits once a week for 30 minutes and all other classes visit for one hour. The original intention was for the lab to be available for teachers to reserve, but scheduling issues have impeded this.
	+ Each classroom contains either five student laptops and one teacher laptop or two laptop carts per grade level which is essentially a classroom set of computers.
	+ The computers are loaded with software such as Microsoft Office, Kidspiration 2, Pixie 2, Mapmaker’s Toolkit, Kid Pix 4, Photo Story, Read Out Loud 6, and many others. There is a laser printer, CD/cassette player, LCD projector, and an overhead projector in each classroom.
	+ Teacher can reserve 1 of 3 mobile SmartBoards © and laptops carts for use in the classroom as well.
	+ There are color laser printers and scanners in the three teacher workrooms.
	+ There are also sound field systems installed in the library and art room.
	+ Finally, teachers are required to maintain a classroom website through Blackboard on the FCPS website. The school’s website is maintained through the SBTS.

Overall, Spring Hill is a very fortunate school. Access is available to a variety of technologies. The school is privileged to have a generous PTO whose members understand the importance of supporting technology in schools.

* **Current Staff Technology Training**
	+ One hour per month Technology training
	+ Replaces 1 hour of planning

**Projected Needs**

* Currently, a classroom is set up with computer desks and chairs with no computers. This used to be a working computer lab with desktop computers. A functioning stationary computer lab is essential, and a versatile schedule and guidelines need to be determined. To make this a fully functional lab, two laser printers, one LCD projector, 30 computers, and 35 headphones would be needed.
* The laptop cart is more versatile and would function well in the upper grades. The computer lab was in effect broken down and put on lap top carts. The idea was this set up would be more versatile. In practice, as noted above, scheduling is an issue which needs to be resolved.

**Projected Needs (continued)**

* Additionally, the school would benefit from keeping the laptop carts, but a replacement plan needs to be determined.
* Replacement schedules for classroom and teacher computers also need to be considered.
* Additional laptops for each classroom to make a total of 6 laptops per classroom for ideal collaborative project grouping. Replacement schedule for classroom laptops is needed.
* Assistive Technologies Disability Software Bundle for self-contained Special Education Classroom.
* Sound field devices – one per regular classroom.
* Flip cameras - 1 per classroom.
* SMART boards - First for computer laboratory; Add additional SMART Board (in addition to the three existing ones) each year to allow one per grade level excluding Kindergarten and an additional board for reservation from the media center. Schedule will be created for reservation of SMART boards.
* SMART Response Interactive System with 32 remotes will be purchased for use as a polling system. Additional information will be provided in the budget justification section.
* Training for teachers is essential for new hardware and software tools. Free training will be included through the vendors with purchase;
* A wiki space for teachers will be developed to obtain, create and share lessons on the new hardware and software tools. Teacher technology training will increase from one training session per month to two, yet time spent on the wiki, can be considered for one of the training sessions.

**B. VISION AND MISSION STATEMENTS** [**(return to contents)**](#home)

**Vision**

A neighborhood school committed to fostering the growth of the whole child through the effective use of state-of-the-art technology.

**Mission**

The effective use of technology will help our students reach their full potential supported by the teachers, the local system and the community.



**C. GOALS AND OBJECTIVES** [**(return to contents)**](#home)

[**Virginia State Technology Standards**](http://www.doe.virginia.gov/testing/sol/standards_docs/computer_technology/complete/computertechk-12.pdf)

[**Fairfax County Acceptable Use Policy**](http://www.fcps.edu/DIT/forms/it121.pdf)

**Basic Operations and Concepts**

* The student will demonstrate knowledge of the nature and operation of technology systems.
* Identify the computer as a machine that helps people at school, work, and play.
* Use technology to demonstrate the ability to perform a variety of tasks; among them turning on and off a computer, starting and closing programs, saving work, creating folders, using pull-down menus, closing windows, dragging objects, and responding to commands.
* Discuss common uses of computers in their daily life and the advantages and disadvantages those uses provide.
* Communicate about basic technology components with appropriate terminology.

[**Fairfax County Curriculum for Elementary School**](http://www.fcps.edu/DIS/OEIAS/index.htm)

**General Education Goals and Objectives K-3**

* Students will use computers for a minimum of 1 hour a week to focus on reading skills through A to Z learning web sites
* Students will type a minimum one writing assignment per month using programs such as Microsoft Word or Pixie 2
* ESOL students will listen to stories on IPODS for a minimum of 1 hour per week
* Students will record fluency at least once a quarter using flip cams
* Students will create patters and graphs electronically via SmartBoard or computers
* Students will take virtual field trips to historically relative places via the Internet
* Students will practice turning on and off the computer, launching and closing programs, saving work, creating folders, using drop-down menus, closing windows, dragging objects and responding to command prompts

**General Education Goals and Objectives Grades 4-6**

* Spring Hill Elementary School educational and technological goals are to advance student learning and academic achievement in order to prepare students for a world of work. These goals promote skill, knowledge and performance. These goals are aimed at improving the school structure and learning environment.

**General Education Goals and Objectives Grades 4-6 (continued)**

* To assist every student in crossing the digital divide by ensuring that every student is technologically literate by the time the student finishes the 6th grade, regardless of the student's race, ethnicity, gender, family income, geographic location, or disability.
* To encourage the effective integration of technology resources and systems with teacher training and curriculum development to establish research-based instructional methods that can be widely implemented as best practices by State educational agencies and local educational agencies.
* Provide students with thirty new desktop computers, two laser printers, LCD projector, thirty-five headphones and appropriately selected software.
* Establish accountability for the successful integration of technology into the curriculum with everyone from the students to the Director of Education.
* Students will access the Internet for the purposes of gathering or viewing information.
* Students will utilize software and Internet programs daily.
* All students will have access to classrooms equipped with a network and communication infrastructure, with wireless capabilities.

**Language Arts**

* Students will use online interactive tools to create vocabulary terms.
* Students will use online resources to create book reviews.

**Science**

* Students will use online interactive sites that will help students to classify animals and identify common characteristics.
* Students will use Internet research skills to gather earth science facts.

**Math**

* Students will use data gathered from online sources to determine age and the weight in space.
* Students will research online the basic principles of architecture.

**Social Studies**

* Students will search online the historical archives in order to create a presentation using PowerPoint tools.
* Students will explore the Colonial life of the people and create a word document of their findings.

**Assistive Technology Goals and Objectives**

**General**

* Students with disabilities will use appropriate software to enhance their learning.
* Students with disabilities will be screened using a variety of software to help make sure their learning needs are being met.
* The student will demonstrate improved physical access skills for participation in classroom and school assignments and activities.
* The student will activate a variety of electronic devices based on level of disabilities.

**Computer Access**

* The student will find resources related to class assignments on the Internet
* The student will listen, observe, speak and write for a variety of purposes and audiences.
* The student will type complete sentences using a minimum of five words using open source word prediction software [LetMeType](http://www.clasohm.com/lmt/en/).

**Text to speech**

* The student will read and understand a variety of materials.
* The student will independently read selected academic-based passages of moderate length, using open source [Natural Reader](http://www.naturalreaders.com/) text-to-voice software, and answer questions based on these passages.

**Communication Voice to Text**

* The student will listen, observe, speak and write for a variety of purposes and audiences.
* The student will compose a one-paragraph essay on a selected topic using alternatives to handwriting such as dictation to a scribe. The student will type complete sentences using a minimum of five words using open source word prediction software, [LetMeType](http://www.clasohm.com/lmt/en/). .

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**D. DETAILED BUDGET** [**(return to contents)**](#home)

To meet the technology needs of Spring Hill Elementary School, a well-equipped computer lab that will accommodate students with special needs is necessary. There is a former computer lab equipped with tables currently available. In line with our vision to foster “the growth of the whole child through the effective use of state-of-the-art technology,” we propose equipping this lab with 30 desktop computers with 17” LCD flat panel monitors, headsets, a SMART Board and projector, and a SMART Response Interactive System.

In addition, the computer lab will be equipped with a multi-language hearing assistance system to meet the needs of our diverse student population. An adjustable workstation (wheelchair accessible) will be equipped with a laptop for students with special needs.

A teacher desk and chair and two printer stands will also be purchased with two color laser jet printers positioned in the lab for easy access and troubleshooting.

To continue our commitment to state-of-the-art technology for our students, additional laptops be purchased for all grades over the next four years, while replacing all current computers in each grade to ensure our students are working with the latest in technology.

Multi-language hearing assistance systems and flip cameras will be purchased for each classroom. Two SMART Board bundles and additional printers will be purchased. One SMART Board will be allocated to the Media Center so teachers can reserve it for classroom use. These new SMART Boards added to the current inventory will allow one per grade level, excluding kindergarten.

**Proposed Budget**

|  |  |  |  |
| --- | --- | --- | --- |
| **2010-2011** |  |  |  |
| **Technology Budget** | **Qty** | **Cost** | **Total** |
| Elementary School computer/keyboard/mouse/WindowsXP no monitor | 30 |  $ 589  |  $ 17,670  |
| Monitor, HP - 17 in LCD flat panel, no speakers | 31 |  $ 109  |  $ 3,379  |
| Headset, Adj, Labtec LT440 | 35 |  $ 6  |  $ 210  |
| Software, Elem school | 30 |  $ 36  |  $ 1,080  |
| SMART Response Interactive Interactive System + 32 remotes | 1 |  $ 1,999  |  $ 1,999  |
| PPA VP Multi-Languange Hearing Assistance System | 1 |  $ 750  |  $ 750  |
| SmartBoard/Projector Bundle Unifi 45 w/SB660; SB660i3  | 1 |  $ 2,696  |  $ 2,696  |
| Elite Manual Series screen | 1 |  $ 90  |  $ 90  |
| Installation of projector and screen | 1 |  $ 750  |  $ 750  |
| Tuffy Increased Access adj workstation (wheelchair accessible) | 1 |  $ 442  |  $ 442  |
| HP Pavillon laptop (for special needs cart) | 1 |  $ 650  |  $ 650  |
| Admin Unit computer/keyboard/Mouse/WindowsXP, no monitor | 1 |  $ 589  |  $ 589  |
| Printer HP Color LaserJet CP3525dn duplexing, networkable 30 ppm | 2 |  $ 701  |  $ 1,402  |
| Printer stand | 2 |  $ 395  |  $ 790  |
| Surge protectors | 35 |  $ 4  |  $ 140  |
| Disability Software Bundle | 1 |  $ 1,345  |  $ 1,345  |
| Miscellaneous: cables, accessories, add'l licenses |   |   |  $ 3,018  |
|  |  |  |  **$ 37,000**  |
|  |  |  |  |
| **2011-2012** |  |  |  |
| **Technology Budget** | **Qty** | **Cost** | **Total** |
| Replace old computers Gr 5/6/Sp Ed--laptops  | 12 |  $ 650  |  $ 7,800  |
| Add'l laptop per classroom for K-3 | 18 |  $ 650  |  $ 11,700  |
| SMART Response Interactive Interactive System + 32 remotes | 1 |  $ 1,999  |  $ 1,999  |
| SmartBoard/Projector Bundle Unifi 45 w/SB660; SB660i3  | 1 |  $ 2,696  |  $ 2,696  |
|  HP Photo and Laser printer  | 2 |  $ 700  |  $ 1,400  |
| Flip camera (one per classroom) | 35 |  $ 180  |  $ 6,300  |
| Headset, Adj, Labtec LT440 | 5 |  $ 6  |  $ 30  |
| Miscellaneous: cables, accessories, add'l licenses |   |   |  $ 3,076  |
|  |  |  |  **$ 35,000**  |
|  |  |  |  |
| **2012-2013** |  |  |  |
| **Technology Budget** | **Qty** | **Cost** | **Total** |
| Replace computers 3-4--laptops  | 11 |  $ 650  |  $ 7,150  |
| Add'l laptop per classroom for 3-4 | 16 |  $ 650  |  $ 10,400  |
| PPA VP Multi-Languange Hearing Assistance System K-2 | 12 |  $ 750  |  $ 9,000  |
| SMART Response Interactive Interactive System + 32 remotes | 1 |  $ 1,999  |  $ 1,999  |
| SmartBoard/Projector Bundle Unifi 45 w/SB660; SB660i3  | 1 |  $ 2,696  |  $ 2,696  |
| Elite Manual Series screen | 1 |  $ 90  |  $ 90  |
| Installation of projector and screen | 1 |  $ 750  |  $ 750  |
| Headset, Adj, Labtec LT440 | 10 |  $ 6  |  $ 60  |
| Miscellaneous: cables, accessories, add'l licenses |   |   |  $ 2,855  |
|  |  |  |  **$ 35,000**  |
|  |  |  |  |
| **2013-2014** |  |  |  |
| **Technology Budget** | **Qty** | **Cost** | **Total** |
| Replace computers K-2--laptops  | 12 |  $ 650  |  $ 7,800  |
| Add'l laptop per classroom for 5 -6 | 11 |  $ 650  |  $ 7,150  |
| PPA VP Multi-Language Hearing Assistance System | 23 |  $ 750  |  $ 17,250  |
| Headset, Adj, Labtec LT440 | 10 |  $ 6  |  $ 60  |
| Miscellaneous: cables, accessories, add'l licenses |   |   |  $ 2,740  |
|  |  |  |  **$ 35,000**  |

**Budget Narrative**

This budget was created to meet Spring Hill Elementary School’s vision to foster “the growth of the whole child through the effective use of state-of-the-art technology.” These are only estimates based on current market prices, which serve as a guideline for future purchases.

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**E. JUSTIFICATION FOR EXPENDITURES** [**(return to contents)**](#home)

The computer lab is designed to accommodate up to 31 students. There are 30 workstations plus one wheelchair accessible computer workstation to accommodate a student with special needs. A laptop computer has been selected for the wheelchair accessible workstation because it is more mobile.

Student workstations will be equipped with a desktop computer running Windows XP and includes a keyboard and mouse. A 17” LCD flat panel monitor has been chosen because a larger screen will help students be able to see more clearly. Students will be using the lab for games, puzzles, artwork as well as written work, so a larger screen was preferred.

Standard software for elementary schools will be purchased as well as the SMART Response Interactive System ([www.learningservicesus.com](http://www.learningservicesus.com)) with 32 remotes. This allows students to interact with a SMART board that will be included in the lab. In addition, the lab will be equipped with the PPA VP Multi-language Hearing Assistance System (www.centrumsound.com) which will enhance all the audio components in the lab.

Each student will have a headset that they will check out while in the lab. Additional headsets will be ordered in case damage occurs, a likely consideration in an elementary school computer lab.

The lab will also include two HP color LaserJet printers, one projector with mounting kit and one screen. There will be one teacher desk with a desktop computer identical to the student computers. The printers will be located next to the teacher’s desk so the teacher can troubleshoot any printer problems.

The printers will be placed on top of a metal cart with doors. Metal was chosen due to its durability. A cart with doors was chosen so paper could be stored neatly away when not in use. The screen will be mounted in the front of the room in a way that all students can see demonstrations, lessons, videos, etc. All computers and peripherals will be plugged into surge protectors to protect the equipment.

All laptops in the school will be replaced over the next four years. Each classroom will also receive an additional laptop for each classroom from grades 1 through 6, allowing each classroom to have a total of six laptops. Flip cameras ([www.digitalwish.com](http://www.digitalwish.com)) will be purchased for each classroom during the 2011-12 school year.

**F. STAFF DEVELOPMENT PLAN** [**(return to contents)**](#home)

**Narrative**

Currently teachers at Spring Hill Elementary have a total of three hours of planning time each week. Some of these hours are used within the team and once a month, one of these hours is replaced with technology specific training. Given the significant improvements proposed in the way of technology resources, it is imperative for the teachers to increase the training hours. This being said, the statement is not meant to minimize the necessity for free planning time for both teams and individual teachers.

To address this possible conflict, the increase in the technology training will only involve an additional hour per month, and to further lighten the perceived load, the additional hour will be in the form of an online training module. This module can be accessed through the following web address: [Spring Hill Technology Training](http://springhillelementarytechnology.yolasite.com/). Also, this web site will house a [Reservation Calendars](http://springhillelementarytechnology.yolasite.com/equipment-reservation.php) for reserving SMARTBoards and other shared technology resources. When introducing this new method of training, collaboration and scheduling practices, particular attention will be given to revisiting the guidelines for shared equipment reservations since this has been expressed as a persistent frustration for a number of staff members.

Future professional development efforts will pay particular attention to providing training on Web 2.0 resources and Cloud Computing tools. Since many new hardware items are being introduced through this Technology Plan, changing software applications could prove to be overwhelming to teachers and staff. Current license expiration dates imply no necessity to change software applications at this time, yet significant cost savings of using free Internet-based software could be realized once the upgrades are available for this software. Not only will the cost savings of the actual programs be significant, the labor saved in not having to install software throughout the school will be significant, also.

[Training Modules](http://springhillelementarytechnology.yolasite.com/training-modules.php) regarding these tools will be included as options on the [Spring Hill Technology Training Website](http://springhillelementarytechnology.yolasite.com/). The technology department will continue to research viable free, Internet-bases replacements for the current software applications installed on the computers. Feedback through a wiki will be encouraged so appropriate modifications and enhancements can be made to the site on an ongoing basis. The hope is future training and team endeavors will move almost exclusively to the webpage and wiki as this could conceivably be a more time convenient, hence more time efficient method of collaboration between staff members.

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**G. TIMELINE FOR COMPLETION** [**(return to contents)**](#home)

**2010-2011**

* Computer lab the focus, 30 computers due for replacement through district, with stock peripherals and software licenses
* LCD projector for lab through PTA fundraiser, SMART board for lab through grant aligning with district/school vision/standards.
* Onsite teacher training through bi-monthly technology training; Initial training will include instructions on use of the wiki, leading to on-site training with podcasts, SMART Notebook and Google docs, bringing teachers to understand Web 2.0 and the Cloud for everyday tasks and collaboration

**2011-2012**

* Assistive technologies, and accompanying training through district representative or appointee. Replacement of Grades 5, 6 and Special Ed laptops
* Additional SMART Board for primary use of 6th grade
* Additional laptop for each regular K-3 classroom
* Laser printer for lab (photo quality printer) for lab supplied through PTA Fundraiser
* Flip Cameras through [Digital Wish](http://www.digitalwish.com/dw/digitalwish/home)
* Teacher training re: assistive technologies through wiki and weekly technology training

**2012-2013**

* Replacement of of Grades 3 and 4 laptops and teacher computers
* Sound field devices (PPA VP System) for K through 2 through grant
* Additional laptop (to bring to a total of 6) for each regular Grade 4 and 5 classroom for collaborative projects
* Additional SMART Board primary use 5th Grade
* Continued bi-monthly training including training through teacher wiki.

**2013-2014**

* Additional laptop for each regular K through 2 classroom
* Replacement of grades 5 and 6 laptops and teacher computers.
* Sound field devices (PPA VP System) for the rest of the school
* Continued bi-weekly technology training and training through teacher wiki.

**H. METHOD OF EVALUATION** [**(return to contents)**](#home)

Teacher [Training Modules](http://springhillelementarytechnology.yolasite.com/training-modules.php) will include a short diagnostic test following the lesson to verify understanding. The data from these tests can help in verifying understanding and provide information on how to editor enhance the instruction in the future. An additional and significant tool for measuring the effectiveness of technology will come from the completion of [monthly surveys](http://springhillelementarytechnology.yolasite.com/surveys.php) which will be included on the [Spring Hill Technology Training Website](http://springhillelementarytechnology.yolasite.com/). Surveys will be compiled and summarized on a monthly basis so glaring deficits may be addressed and possible adjustments made to the purchases or placement of resources if necessary.

