Shamong Township School District
Digital Technology Readiness Plan
2016-2019

Indian Mills Middle School

Indian Mills Elementary School

Three-Year School District/ Charter School Technology Plan 2016 – 2019

District/Charter School: Shamong School District

Burlington County, County Code 05, **District Code:** 4740 **Grade Level Span:** K-8

District/Charter Web Site: www.ims.k12.nj.us

Date of school board approval: _____

Please indicate the contact person for questions regarding this plan:

Name: (print) _____
Title: Technology Coordinator
E-mail: kfoster@ims.k12.nj.us Phone 609-268-0440 ext. 1050

School District Superintendent/Charter Lead Person Approval:

Superintendent/Charter Lead: (please print) _____

Signature: _____ Date: _____

Burlington County Review Committee Approval:

Signature: _____ Date: _____

Signature: _____ Date: _____

Signature: _____ Date: _____

Transformation to Digital Learning

Table of Contents

Transformation to Digital Learning

Technology Plan Components CHECKLIST

SHAMONG SCHOOL DISTRICT

NJTRAx PARCC Technology Readiness Rating: 9 NJTRAx Digital Learning Readiness Rating: 9

- If the Future Ready District Level summary report was generated within the 2015-2016 school year, include a copy of the district report with the Plan submission
- If the NJTRAx Digital Learning Surveys summary report was generated, include a copy for all identified schools

STEP		YES	NO
1.	**District vision included.**	X	
2.	**NJTRAx technology readiness system for the district and for each school was updated.**	X	
3.	**NJTRAx DL surveys for each school were completed. GO TO STEP 5** **IMMS** ***(due to parent category percentage not met) – teachers, students and all administrators filled it out*** **IMS**	X	X
4.	**School-based Goals, Strategies, Objectives and Indicators are included for each identified school.**	X	
5.	**Reflection and adjustment plan is included.**	X	
6.	**School-based plan for infusion of technology within instruction is clearly understood.**	X	
7.	**School-based Reflection & Adjustment is included for each identified school.**	X	
8.	**School-based budget is included to support activities in Action Plan.**	X	

Stakeholder Assurance

Indian Mills Middle School

I agree to the contents in this educational plan, and the assurance that I will be involved in the implementation of this Technology Plan for Digital Learning. Involvement in the implementation of this Plan may include: reviewing the progress of meeting the goals and objectives, being responsible for completing one or more activities in the action plan, participating in the revisions of the plan. Stakeholders associated with the district and school levels (i.e., each principal from targeted schools) should sign.

Stakeholder Name	Stakeholder Title	Stakeholder Signature
Christine Vespe	District Superintendent	
Timothy Carroll	Principal, School Name	
	Parent	
	Teacher	
Kathleen Foster	Technology Coordinator	
	Students	
	School Board member	
	Community Member	

Stakeholder Assurance

Indian Mills Elementary School

I agree to the contents in this educational plan, and the assurance that I will be involved in the implementation of this Technology Plan for Digital Learning. Involvement in the implementation of this Plan may include: reviewing the progress of meeting the goals and objectives, being responsible for completing one or more activities in the action plan, participating in the revisions of the plan. Stakeholders associated with the district and school levels (i.e., each principal from targeted schools) should sign.

Stakeholder Name	Stakeholder Title	Stakeholder Signature
Christine Vespe	District Superintendent	
Nicole Moore	Principal, School Name	
	Parent	
	Teacher	
Kathleen Foster	Technology Coordinator	
	Students	
	School Board member	
	Community Member	

Shamong School District
District Vision

To enhance student achievement by preparing them to live and work in a global society with a systematic approach to digital learning. Building upon historical concepts, values and fundamental principles our mission is to teach students to be successful self-learners to solve problems by embracing the 21st century tools available throughout their tenure in the district.

The Shamong Township School District comprised of the Indian Mills School (Pre-K Grade 4) and the Indian Mills Memorial School (Grades 5 through Grade 8) are committed to providing the teachers as well as students with 21st Century tools.

The 21st century presents challenges of opening lives to a more collaborative, social and global community creating a new social DNA for every individual. Living in the 21st century. Today's students must work with content by researching, evaluating then produce outcomes with the understanding of the principles for synthesis. With this comes creativity, communication, collaboration and cognitive skills that together produces results with a new style of teaching and learning. No longer are books the sole resource nor is the teacher the total giver of information. Students in the 21st century need to inquire, invent, take the initiative to use their imagination to discover their own learning with all the technological tools now available to them. The internet, apps, virtual reality, three dimensional learning are all hands on opportunities that promotes meaningful learning relative to the learner. No more "sage on the stage" approach to teaching. The learning style is ever changing to project-based and constructivism rather than rote or lecture. Learners of today must utilize multitasking to maintain a life-long learning status.

PARCC & NJTRAX

NJTRAx PARCC Technology Readiness Rating: **9** (out of 9)

NJTRAx Digital Readiness Rating: **5.9** (out of 9) – Elementary School

Regarding *PARCC*; the Shamong School District experienced three very successful years with the implementation of online *PARCC* testing. With the participation of the 2013-2014 field test which assisted us to determine our needs to be ready for successful live testing. During these three years the district maintained an up-to-date *NJTRAx* database constantly increasing the hardware recommended for *PARCC* testing.

It is planned that during the 2016-2017 school year that every student will test at the same time during one week. This will help to minimally disrupt the teaching and learning time frame.

Regarding *NJ TRAx* and Digital Readiness; The elementary school's data score implies that the district has begun to incorporate digital learning but shows there is room for improvement. The new *Digital Learning Plan* addresses this need and with it will move the district to success in providing a digital culture to promote a higher level of thinking.

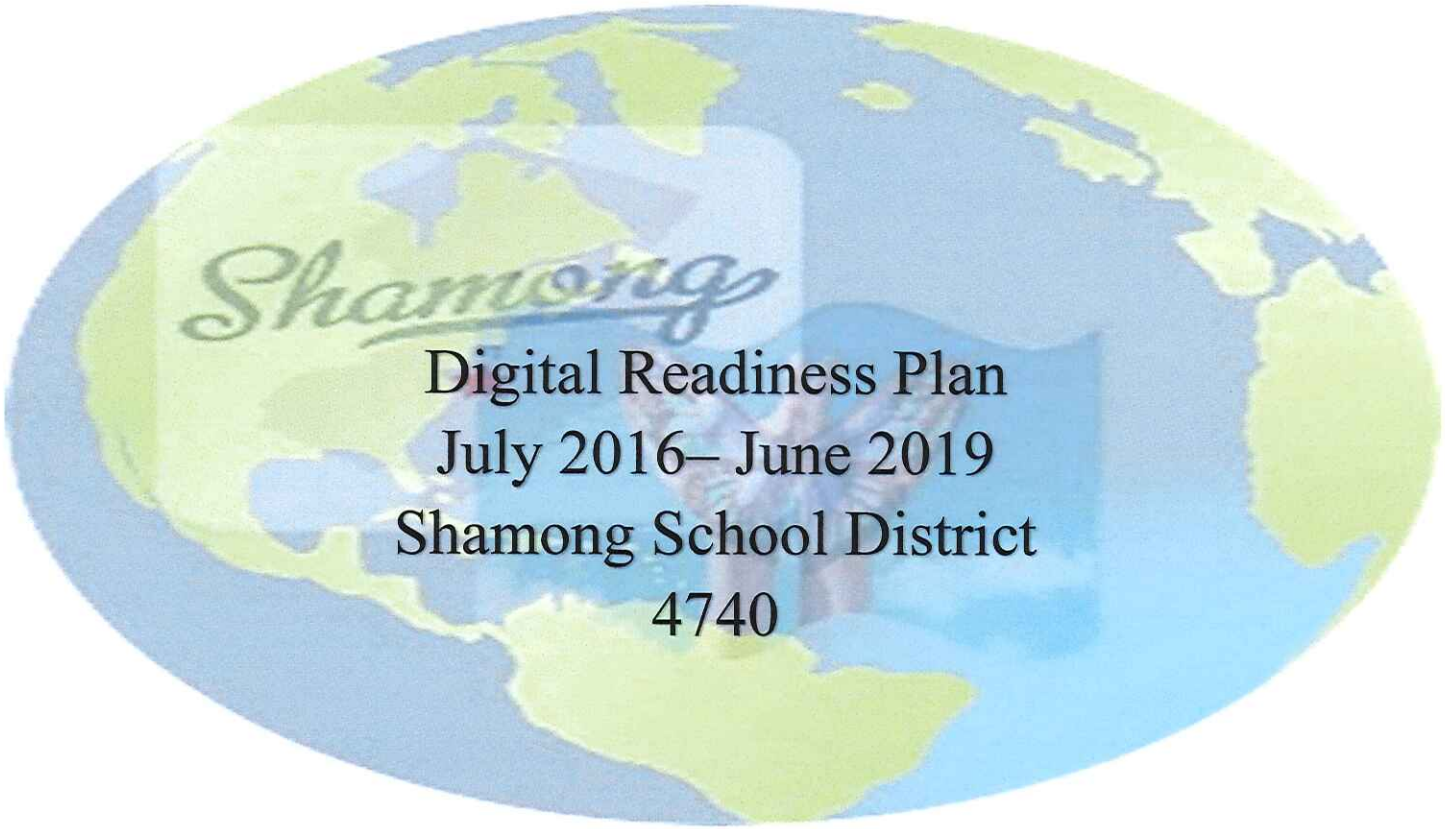
Transformation to Digital Learning

2016-2019

Goals and Objectives

	District		Indian Mills Middle School			Indian Elementary School		
Goals	**Infrastructure**	**Professional Development**	**Curriculum**	**Hardware**	**Software**	**Curriculum**	**Hardware**	**Software**
Objectives	**1 - 13**	**1 - 6**	**1 - 6**	**1 - 6**	**1 - 6**	**1 - 6**	**1 - 6**	**1 - 6**

Transformation to Digital Learning



Digital Readiness Plan
July 2016– June 2019
Shamong School District
4740

Throughout the years, society has named generations relative to the societal norms, values and ethics of that time period. Gen Y kids (born before 1994) are known to be technology wise, as they did not only grow up with it all, they've seen it all and been exposed to it all since early childhood. However, during that time education moved slightly towards technology but remained stringent with 20th century teaching and learning environments. Technology was not used as an educational resource but was considered as a privilege.

Then along came Generation Z (born after 1995). This group is highly diverse and significantly infused with technology. They are growing up with highly sophisticated social media and technological devices making them different learners from generations before. It is with group that education realized a change must be made with the teaching and learning environment. Thus the digital culture environment became extremely important for learners to be educated and successfully live in the digital global society. The entire educational arena is being redesigned to the learning modalities of our technology savvy students. The transformation will be systematic with a strategic written plan. The plan will address the needs for infrastructure, curriculum, professional development, hardware and software (APPS, Online, Subscriptions, etc.)

Technology is the core of virtually every aspect of the education system; schools must leverage it to provide engaging and powerful learning experiences [1](http:// tech.ed.gov. pg. 6). Although all of the parts are important without a robust sound infrastructure, systematic change could produce poor results. A sound foundation should be fast (have a large bandwidth), effective, efficient and maintained to have a good reputation for dependability and use. The district maintains a helpdesk application for staff to report technical problems. The IT department will seek solutions usually within twenty hours allowing the teacher to focus on teaching and not troubleshooting technical problems.

The district presently has a wired and wireless network with a bandwidth of 700 Megs (exceeds the recommended SETDA amount for testing) for Internet and WAN services. The district will actively seek better solutions to improve the quality of the infrastructure and replace at the "end of life" hardware. A review for cyclic upgrades will be monitored and purchased when necessary [2](http://app.njtrax.org/digital-learning/framework).

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[1] http:// tech.ed.gov. pg. 6

[2] http://app.njtrax.org/digital-learninghttp://neric.org/Smart_Schools/pdfs/transforming_schools.pdf

To force a pedagogical change education must design a new classroom that envisions how students will learn [3](http://neric.org/Smart_Schools/pdfs/transforming_schools.pdf). With the selection of so many internet ready devices ubiquitous connectivity is available so learning can happen anywhere, at any time in a variety of settings not just in the school building [4](http://neric.org/Smart_Schools/pdfs/transforming_schools.pdf). Since technology so quickly evolves it is extremely important to maintain a current, reliable and efficient system as well as programs. Thus making it a necessity to examine the plan annually for adjustments. Knowing the right devices, systems, applications and professional development is needed to keep the digital learning environment optimal. Having annual reflection and adjustment meetings to modify and manifest the digital readiness plan presents a good practice.

However, with the digital learning environment, schools today have a whole new level of responsibility when it comes to creating and maintaining safe environments. Unfortunate reality is that societal changes have led to a new "normal" in terms of public expectation. To add security safeguards to "active shooter" and "lockdown" plans are needed to keep not only the infrastructure safe from malicious intent, but also anyone using it. Along with this new normal comes questions about the technology and building a safe and secure that needs to be installed, managed and updated. Beyond the physical security of learning spaces, districts and their IT staff need to also have well-crafted approaches that will offer students, staff, families, community members and visitors easy and secure access to educational information and devices [4](http://neric.org/Smart_Schools/pdfs/transforming_schools.pdf).

Digital Citizenship needs to be taught and also exemplified by role models such as educators. Constant reminders to staff as well as students need to be given to help circumvent cyber intrusion and or cyber bullying from happening. Not only are acceptable use policies and CIPA in force but now there are other protective entities such as COPPA and FERPA.

The Common Core State Standards are a clear set of shared goals and expectations for the knowledge and skills students need in English language arts and mathematics at each grade level so they can be prepared to succeed in college, career, and life. [5](http://www.corestandards.org/about-the-standards/frequently-asked-questions). Teachers design the lessons to engage the students in a deeper learning integrating 21st century tools and skills to influence a more personalized learning and take

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[3] http://neric.org/Smart_Schools/pdfs/transforming_schools.pdf.
[4] http://neric.org/Smart_Schools/pdfs/transforming_schools.pdf
[5] http://www.corestandards.org/about-the-standards/frequently-asked-questions

ownership. Students are motivated to seek problem solving skills rather than just receiving information to memorize. Coupled with the Common Core is the Technology Standards which develops a cultural change within the classroom. The new variation uses technology devices transforming the classroom to a digital learning environment.

The digital learning environment is vastly different from the standard classroom as it uses the teacher as a facilitator to engage and empower students in a more student-centered learning model [6](http://neric.org/Smart_Schools/pdfs/transforming_schools.pdf). Even though Bloom's taxonomy still promotes a higher form of thinking, the digital age is augmenting his model with SAMR. Dr. Ruben Puendedura works has revolved around the idea that technology has the ability to "redefine" the types of activities that students participate in with technology. He identified four levels of Integration, Substitution, Augmentation, Modification and Redefinition (SAMR). Like Bloom's SAMR is not a hierarchy, but does describe increasing complexity [7](http://edtechtoday.net/home/2015/2/18/samr-and-blooms-taxonomy).

The entire educational arena is empowered to transform students to become idea-generators, risk-takers, creators and innovators within a community that promotes invention. Teachers and administrators are required to have the same skills they are developing in their students — flexibility, creativity, an ability to work collaboratively and to think innovatively [8](http://neric.org/Smart_Schools/pdfs/transforming_schools.pdf). The strategy is to change the mindset of educators to promote an innovative school and find ways to foster deeper learning for their students. However, without the necessary technology, it will not be possible to bring these opportunities to scale. The adoption of college, career ready standards and the coordination of next-generation assessment, creates an unprecedented national opportunity to advance readiness that can be realized by linking digital learning and deeper learning [9](http://net.educause.edu/ir/library/pdf/CSD6152a.pdf).

The expectation to offer a variety of digital tools is to foster a learning style to meet individualized learning. Different types of installed software, online subscriptions, apps, social media, digital textbooks along with paper resources provides a smorgasbord of opportunities for learning. These expectations are grounded in standards-based content and elements of deeper

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[6] http://neric.org/Smart_Schools/pdfs/transforming_schools.pdf
[7] http://edtechtoday.net/home/2015/2/18/samr-and-blooms-taxonomy
[8] http://edtechtoday.net/home/2015/2/18/samr-and-blooms-taxonomy
[9] http://net.educause.edu/ir/library/pdf/CSD6152a.pdf

learning with critical thinking and decision making, creativity and innovation, bi-directional communication, research and information literacy, and self-direction [10](http://app.njtrax.org/digital-learning/framework).

It is important for educators to take responsibility for professional growth through either self-directed professional development or organized activities [11](http://app.njtrax.org/digital-learning/framework). Teachers need to learn and use 21st century tools and how to incorporate them in the new digital classroom. Professional development needs to be delivered in many different ways to transform into digital learning classrooms with the necessary tools and support to be successful. The teachers through staff development will learn how to devise their own lesson plans and curriculum, and tailor their instruction to the individual needs of the students in their classrooms [12](http://www.corestandards.org/about-the-standards/frequently-asked-questions).

Opportunities for learning exist that empower all students to experience and master the core understandings related to the content of the curriculum [13](http://app.njtrax.org/digital-learning/framework). Unfortunately, there are still communities that still have unequitable technology access and the Shamong School District is one. To help counterbalance this deficit the school offers after school homework sessions every day of the week so students can use the district technology to complete assignments.

While the district anticipates to transform into a digital learning environment with the basics to experience and master the core understandings related to content, but also has the desire to expanded beyond the basics [14](http://app.njtrax.org/digital-learning/framework). Since this district is relatively small there is an equitable achievement of technology purchases. Also, since technology is unpredictable and moves at an exponential rate it is extremely difficult to secure a concrete plan listing devices and software that could be outdated quickly. So therefore, the district is planning for particular activities that include connectivity, collaboration, creativity, decision making and problem solving using the digital tools that will be procured in the district. Presently one of the future expansions being researched is STEAM in classrooms.

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[10] http://app.njtrax.org/digital-learning/framework
[11] http://app.njtrax.org/digital-learning/framework
[12] http://www.corestandards.org/about-the-standards/frequently-asked-questions
[13] http://app.njtrax.org/digital-learning/framework
[14] http://app.njtrax.org/digital-learning/framework

To include the expansion of STEAM There are new tools on the horizon for the educational arena that the district is researching; Virtual and Blended reality. Each of these tools provide a pseudo real-life learning experience otherwise not available to students. There are several ways in which VR technology is expected to facilitate learning in a unique way. Students will have the ability to visualize abstract concepts to make observations in a safe environment. Although there is not enough research available for this new technology, the hypothesis is that students will be better able to master, retain and generalize new knowledge when actively involved in constructing in a learning-by-doing situation [15](http://www8.informatik.umu.se/~jwworth/EducVR.pdf). These activities will begin the expansion of presenting STEAM that also will lend to a universal designed learning environment. Researching digital tools, activities and design is a perpetual activity that the district will engage in now and the future.

The district is committed to actively involving the community in achieving its learning goals [16](http://app.njtrax.org/digital-learning/framework). Moodle is an integral part of the district that is used for blended e-learning for online collaboration, creativity communication and connectivity to the community. Students use the Moodle on a daily basis both at school and from home. *Twitter* is used by the middle school principal to keep the parents informed of the happenings in the school. Another means of parent communication is an online resource called the *Thursday Packet* that advertises all activities in the district along with a Facebook account. The district has established many partnerships with the community that includes digital communication. One group, *IMPACT* in particular has meetings that community participates in using technology while attending the meeting from home thus creating a larger member base. The district has a BYOD program which allows visitors, teachers and students to bring in their own digital device and connect to the district's network. During meetings, presentations and classrooms activities affords the user to comfortably work on their own device to assure progress.

Digital Readiness will be a systematic transformation for the teaching-learning environment for Generation Z and generations to come. The plan outlines two district goals and three goals for the two district schools that includes infrastructure, professional development, curriculum, hardware, software and curriculum. Successfully completing these goals in three years will produce a digital rich learning environment. The move away from just simply using technology for tech's sake to a more

[15] http://www8.informatik.umu.se/~jwworth/EducVR.pdf
[16] http://app.njtrax.org/digital-learning/framework

meaningful use is the plan. The increase of cognitive skills with a deeper individual learning experience is an attribute of the *SAMR* model of, substitution, augmentation, modification, and redefinition [17](http://www.emergingedtech.com/2015/04/examples-of-transforming-lessons-through-samr/, Dr. Ruben Puentedura).

Using this model and fulfilling the Digital Readiness plan will transform the Shamong District learning environment to a digital rich culture to promote the success of the students to prepare them to live, work and succeed in a digitally connected society.

[17] http://www.emergingedtech.com/2015/04/examples-of-transforming-lessons-through-samr

Technology Plan
July 2016– June 2019
Shamong School District - 4740

Infrastructure Goal

Goal #1

Procure and maintain a district wide Infrastructure that provides a digital learning environment throughout the entire district. Technology is ever evolving therefore this goal will continue to be investigated and change will occur dictated by the following needs, policies and budget permitting.

The Shamong School District infrastructure is a robust network comprised of five physical Dell blade servers servicing ten VLANS for different services of the network. The backbone of the network is all HP A5500-48G port *poe* switches with a fiber backbone to each of the wire closets (IDF). The wireless network consists of a six VLANS servicing Meraki access points in each classroom with the common rooms having at least two. The district Internet runs on a 700 meg bandwidth pipe with the same for the WAN between schools. This bandwidth exceeds the state standard. The district leadership will communicate with colleague's s through county meetings and conferences to compare resources to maintain alignment.

Along with the district infrastructure comes the need for cyber security. It is the responsibility of the district to do their due-diligence to maintain a safe and secure environment. Digital Citizenship is a responsibility for all users in order to work in a secure and safe environment. The Federal Trade Commission outlines a six-step compliance plan for children's' online safety with the COPPA [18](Children's Online Privacy Protection Act) Act (https://www.ftc.gov/tips-advice/business-center/guidance/childrens-online-privacy-protection-rule-six-step-compliance). The six steps outline safety and privacy for students with the parent involvement. Also, the Family Education Rights Act (FERPA) protects the privacy of students' personally identifiable information [19](http://searchsecurity.techtarget.com/definition/FERPA). The Child Internet Protection Act (CIPA) act protects children from Internet obscenities and/or harmful content [20](https://www.fcc.gov/consumers/guides/childrens-internet-protection-act). All three of these protection acts, COPPA, FERPA and CIPA help to create a foundation of proper use and safety that all require signed documentation from the school district.

The Shamong District is very cognizant of procuring the most cost effective solutions for all of their purchases. NJ DRLAP Internet cost through their concerted efforts to lessen costs for the school districts is one example. Using consortiums, state contracts and qualified vendors is a practice that is and will be continued to maintain a feasible technology budget.

Providing an efficient and effective hardware maintenance program will assure that the curriculum continues smoothly thus keeping the digital environment successful. Along with the technology coordinator there is one full time technician and a one day a week upper level technician. Staff uses a *HelpDesk* application that provides solutions usually within 24 hours or less. The technology department tracks the helpdesk tickets and offers improvements on simple troubleshooting techniques to staff members. If there is a problematic device constantly being reported and all efforts have been made to make it functional without success that device is replaced. An up-to-date inventory database is maintained to insure hardware integrity.

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[18] https://www.ftc.gov/tips-advice/business-center/guidance/childrens-online-privacy-protection-rule-six-step-compliance

[19] http://searchsecurity.techtarget.com/definition/FERPA

[20] https://www.fcc.gov/consumers/guides/childrens-internet-protection-act

The technology department works very closely with the maintenance department to assure the quantity of power is available, all safety requirements are met and the room availability for devices. Meetings occur daily to maintain functionality all of hardware and systems. When non acceptable conditions arise, both departments will actively seek solutions. Since digital technology is a mainstream for both the educational arena as well as offices power output is of utmost importance. It has been decided that an essential battery back system is needed to maintain connectivity during a power failure due to the digital environment. This will be a long term project as it will be a costly one.

The digital age brings with it new safety hazards that must be addressed. No longer is anti-virus software and firewalls the only protective gear a network needs. New threats such as DDOS (Distributed Denial OF Service) attacks that demand new technologies to protect the network. To protect against DDOS takes a two-fold approach. One is that a DDOS appliance is installed in district to circumvent an internal attack and an upstream protection from the ISP. A redundant second ISP line would be a good practice to totally protect the infrastructure. Devices need to be heuristic and APT (Advanced Protection Threat) to protect against advanced attacks. Interval segmenting of firewalls, DDOS appliance and *Cylance* (protection of endpoints) would be the optimal combination to protection against cybercrime. With education focusing on providing a digital environment new security plans and policies need to be in place. The need is to have an audit and assess the district infrastructure and practices to have multiple levels of security, actions, plans and consequences for misuse.

Also, new policies must be created to ensure the proper consequences for the misuse of any technologies in the district. Since classrooms are turning into a digital learning no longer is paper, pencil and books the only resources of the classroom. Present regulations policies reflect for the former learning models. In addition to the teaching learning environment is that all offices depend on the infrastructure to perform their daily duties. No longer is the Internet being down just a nuisance but a necessity to ensure all necessary tasks being performed such as; databases, attendance, payroll personnel, student and emergency information being accessed. The infrastructure is necessary for the well-being and the welfare of anyone in the district. Policies, regulations and procedures must be updated to be aligned with the new digital learning and working age.

CIPA compliant web filter in enacted with the necessary categories being blocked. However, the district tries not to be so restrictive that digital learning is prevented. Teachers have the freedom to be innovative and use the digital tools as needed. If there is an educational site being blocked, it is simply reported to the technology department and if deemed educational, the site is unblocked. Being too restrictive can compromise the success of the digital learning classroom. A balance must be maintained and monitored. Everyone in the district that uses the technology must sign an acceptable use policy and by a splash screen is reminded every time they login with the terms and conditions of the policy. Students as well as staff are taught cyber safety, cyber bullying

and the correct way to use technology through classes, discussions, guest speakers and assemblies. They are reminded to practice digital citizenship every time they login into the district network that includes copyright laws.

Every year in the early fall before budget completion a meeting is held with the IT Consultant group for a reflection and adjustment of the technology plan. When recommendations are offered and the technology department agrees the following year's budget will reflect the suggestions. The technology program maintains the necessary financial support that is needed to protect the integrity of the infrastructure as well as entire digital learning environment. E-rate contributes about forty percent of the communication and category two devices and the infrastructure systems. Title Grant money also augments the technology budget that helps to maintain the programs for digital learning in the classroom.

We are extremely fortunate to have the *Shamong Township Foundation* that truly supports innovate digital learning. Their fundraising provides many devices and programs contributing to the digital classroom as well as the one-to-one ratio initiative. The district parent group *The Shamong Home and School* organization is another extremely supportive and valuable resource. Their efforts have afforded many classrooms with digital tools and professional development. With these financial resources, vendor related grants as well as seeking other larger grant opportunities to augment the district technology budget helps to maintains a thriving functional learning environment.

Objective 1 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Telecommunication Necessary Network Hardware and its compliments for phone access ✹Provide a competent communication service between home, classrooms and offices	Technology Coordinator Superintendent Business Administrator	✹ District will maintain quality hardware/software infrastructure for adequate capacity and capability to support communication	Meet, Modify Manifest in October of each year to implement in July of the next year October 2016- July 2017 October 2017- July 2018 October 2018- July 2019	Technology Coordinator's Research Consultant Recommendation Vendor Recommendation	✹ Working and functional lines and devices ✹Phone extension documentation ✹Comprehensive Database ✹Signed Contracts	BOE/Budget ERATE Seek Grants Lease Options

Objective 2 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Servers, Switches and associated peripherals ✹Provide a competent network communication service	Technology Coordinator Superintendent Business Administrator	✹ District will maintain quality hardware and software operating infrastructure for adequate capacity to support the entire technology program ✹ Research and procure necessary device ✹Research and procure necessary softwar2 ✹Install and configure all necessary components	Meet, Modify Manifest in October of each year to implement in July of the next year October 2016- July 2017 October 2017- July 2018 October 2018- July 2019	Technology Coordinator's Research Consultant Recommendation Vendor Recommendation	✹ Working and functional devices and software ✹Comprehensive Database	BOE/Budget ERATE Seek Grants Lease Options

Objective 3 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Additions/Redundant ISP **Internal** **External** ✹ Redundancy to maintain an effective stable network connection	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹ Research and an effective ISP ✹ Procure a second ISP that provides DDOS upstream protection and redundancy and from any other cyber attacks ✹Install and configure all necessary components for a redundant ISP	Meet, Modify Manifest in October of each year to implement in July of the next year October 2016- July 2017 October 2017- July 2018 October 2018- July 2019	Technology Coordinator's Research Consultant Recommendation Vendor Recommendation	✹ Working functional Internet, Wireless, WAN and LAN networks ✹Comprehensive Database ✹Signed Contracts	BOE/Budget ERATE Seek Grants Lease Options

Objective 4 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Bandwidth Exceeds the SETDA recommended 100K per student) to maintain network competency (presently 700 MEGS) ✹ **Internal** ✹ **External**	Technology Coordinator Superintendent Business Administrator	✹ Procure enough bandwidth to maintain a stable efficient dependable network	Meet, Modify Manifest in October of each year to implement in July of the next year October 2016- July 2017 October 2017- July 2018 October 2018- July 2019	Technology Coordinator's Research Consultant Recommendation Vendor Recommendation	✹ Working functional lines and devices ✹Fast internet speed and stability for efficiency ✹Meet the requirements of the state for per student ration for kilobytes	BOE/Budget ERATE Seek Grants Lease Options

Objective 9 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
✹ **Guest Access** (presently every guest enters the office through a "buzz" in procedure which will continue) ✹ **Visitor Identification** To "vet" visitors through a card access system ✹ **Burglary** To alarm buildings for intrusion detection ✹To place audible and/or strobe lights in every area necessary for warnings signs ✹ **Alarms** To have audible and/strobe light ability throughout the district for warning signs	B&G Supervisor Business Administrator Technology Coordinator Superintendent	✹Research solutions for actively identifying guests to be allowed in buildings including "vetting" ✹Procure those solutions for guest access with "vetting" ✹Research solutions for burglary and fire alarm systems ✹Procure and install burglary systems ✹To install and complete burglary and fire prevention hardware and systems ✹To place strobe lights and audible sound in rooms, lavatories that do not presently have them ✹Continue to modify	Meet, Modify Manifest in October of each year to implement in July of the next year October 2016- July 2017 October 2017- July 2018 October 2018- July 2019	Technology Coordinator's Research B&G Supervisor's Research Consultant Recommendation Vendor Recommendation	✹ Working, functional effective and efficient total security detail ✹Comprehen-sive Database	BOE/Budget ERATE Seek Grants Lease Options

Objective 10 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Cyber Security **To procure all necessary components for a secure, equitable, efficient, effective and safe digital environment** ✹To provide due-diligence to maintain and steadfast safe digital environment, create/update necessary policies to keep current with the trends ✹Provide necessary cyber-secure software, devices and filtering	Technology Coordinator Superintendent Business Administrator	✹Research a cyber-security vendor to perform an audit of the infrastructure and seek solutions to maintain the safety and security of it ✹Develop a plan for the cyber-security based on the audit ✹Activate the necessary components for the infrastructure based on the cyber-security plan ✹Provide a secure digital learning environment with the use of content filtering, firewall and DDOS protection and any other device for protection	Meet, Modify Manifest in October of each year to implement in July of the next year October 2016- July 2017 October 2017- July 2018 October 2018- July 2019	Technology Coordinator's Research Consultant Recommendation Vendor Recommendation	✹ Security Plan adopted ✹Security Plan implemented with the use of necessary hardware and software ✹Secure, safe, efficient and effective learning environment ✹New regulations and polices enforce	BOE/Budget ERATE Seek Grants Lease Options

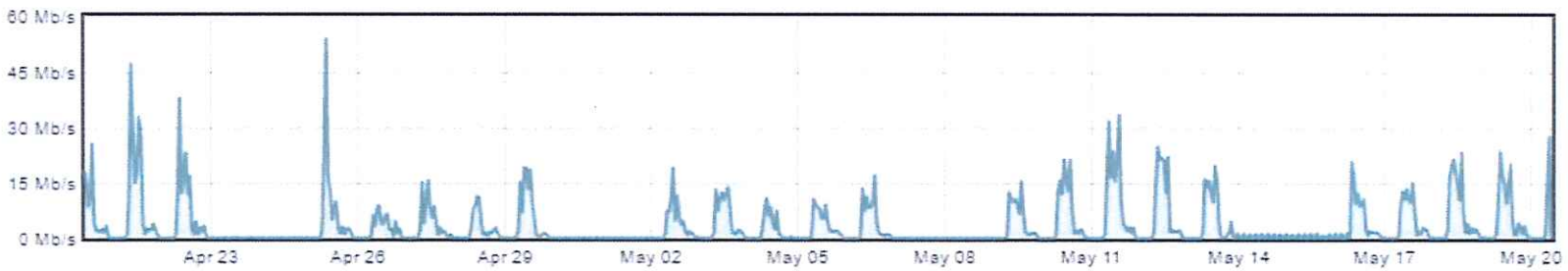
Objective 10 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Cyber Security **To procure all necessary components for a secure, equitable, efficient, effective and safe digital environment** ✹To provide due-diligence to maintain and steadfast safe digital environment, create/update necessary policies to keep current with the trends ✹Provide necessary cyber-secure software, devices and filtering	Principals Superintendent Technology Coordinator	✹Procure necessary software to manage and prevent cyber-attacks ✹Procure necessary software to block or allow websites ✹To establish new and necessary polices to reflect the digital environment with appropriate consequences ✹This objective is always revolving to reflect new practices	Meet, Modify Manifest in October of each year to implement in July of the next year October 2016- July 2017 October 2017- July 2018 October 2018- July 2019	Technology Coordinator's Research Consultant Recommendation Vendor Recommendation	✹ Working, functional safe digital environment ✹ Procured necessary signed documentation for privacy acts	BOE/Budget ERATE Seek Grants Lease Options

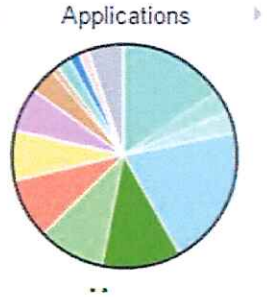
Objective 11 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Security, Digital Citizenship and policies ✹To provide due-diligence to maintain and steadfast safe digital environment, create/update necessary policies to keep current with the trends	Principals Superintendent Technology Coordinator	✹Provide Documentation to parents/students for signatures up-to-date policies, procedures, and practices that address legal, ethical, and safety issues related to the privacy and security with CIPA, COPPA and FERPA	Meet, Modify Manifest in October of each year to implement in July of the next year October 2016- July 2017 October 2017- July 2018 October 2018- July 2019	Technology Coordinator's Research Consultant Recommendation Vendor Recommendation	✹ Working, functional safe digital environment ✹ Procured necessary signed documentation for privacy acts	BOE/Budget ERATE Seek Grants Lease Options

Objective 12 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
IT Department ✹Provide a necessary ration of staff/devices to IT personnel to maintain a competent digital learning environment ✹Provide efficient support to staff members	Technology Coordinator Superintendent Business Administrator	✹Procure helpdesk technician ✹Procure consultant\integrator for professional services ✹Procure services for network admin ✹Procure an efficient ratio support number of technicians to staff and district devices	Meet, Modify Manifest in October of each year to implement in July of the next year October 2016- July 2017 October 2017- July 2018 October 2018- July 2019	Technology Coordinator's Research Consultant Recommendation Vendor Recommendation	✹ Efficient, responsible and functional technology infrastructure ✹ Effective application for a digital learning environment ✹ Performance and proficiency of support team ✹ Working, efficient, effective digital learning lessons ✹Efficient support of helpdesk system	BOE/Budget ERATE Seek Grants Lease Options

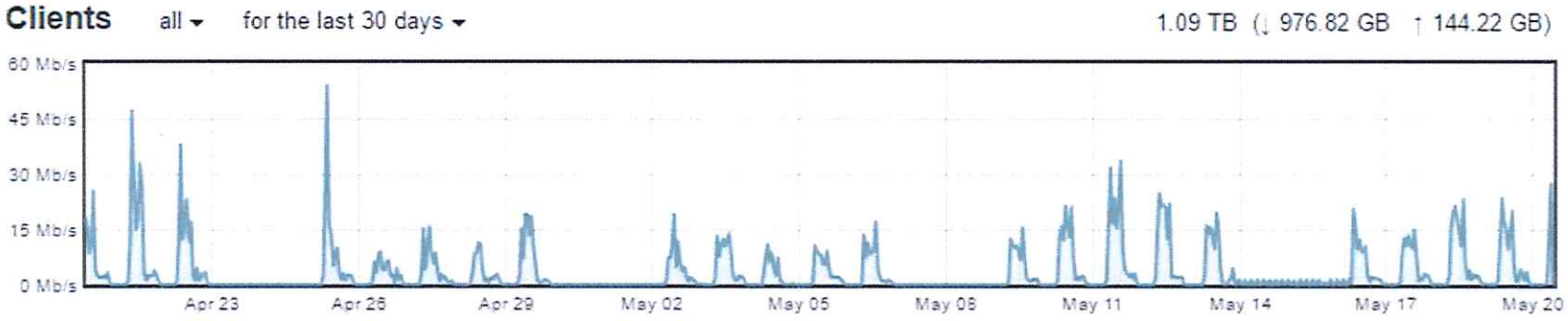
Objective 13 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Back Up Power ✹Install the necessary battery power back up system to ensure network connectivity during power failure	B&G Supervisor Technology Coordinator Superintendent Business Administrator	✹Involve Architect for necessary drawings for a unit to power the main core and other necessary locations ✹Procure consultant\integrator \electrician for professional services ✹Create a design for implementation ✹Seek all costs, solicit quotes ✹Seek a plan to implement ex. Referendum, Rod Grant	To have installed by July 2019	Architect Plans B&G Supervisor's Research Technology Coordinator's Research Consultant Recommendation Vendor Recommendation	✹ Working, functional adequate power supply for entire technology program	BOE/Budget ERATE Seek Grants Lease Options

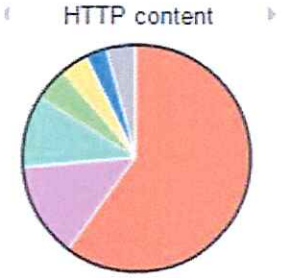
District Online Application Use for 30 Days – 820 Clients using the BYOD and district Wireless network.





Internet Use – HTTP researching and Applications usage





Technology Plan
July 2016– June 2019
Shamong School District 05 – 4740

Professional Development

Goal #2:

Digital Professional Development is going to focus on the tools in the classroom that will facilitate a deeper knowledge and understanding of content for pedagogical change to support the 21st century learning experience.

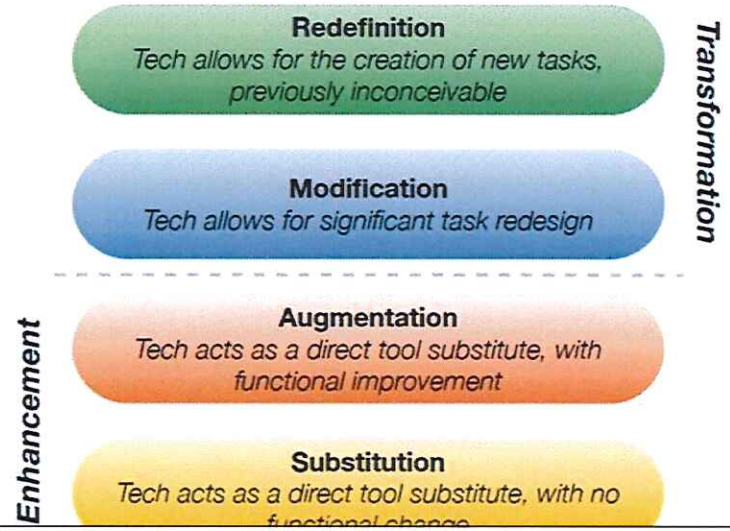
Having an understanding of the current level of teachers' knowledge and skills in using technology as an integral part of instruction will refine and maintain a comprehensive staff development program. As important is knowing the students' technology abilities, readiness and projected skills will drive the necessary staff development.

Relative to the two schools in the district each will offer staff development programs to promote digital learning and successful students. Utilizing the *Stronge* assessment tool, observations, *NJTrax* and other surveys will determine the needs to expand the knowledge to facilitate a teaching-learning environment. Staff development will focus on the necessary resources to support an inclusive digital learning and student self-centered environment in the classroom. Importantly professional development will be provided to ensure alignment of lesson plans to the Common Core, Technology State Standards and the learning needs of the students. Having this education will engage and empower students to be self-motivated lifelong problem solvers. With new teacher assessments propagates new student assessments. We are currently revising both of our formative and summative assessments to be standards based. Teachers are compiling data from those assessment in-conjunction with PARCC reports to determine strengths and weaknesses to guide instruction.

This goal includes utilizing current trends and practices in education while also anticipates emerging and future developments. Due to the exponential growth rate of technologies and the fluctuating availability of funding, specifics are difficult to predict. This outlined framework is intended to continually evolve to be a successful three-year plan.

Staff development opportunities will be diverse and delivered in various settings to reach all learning styles and make it meaningful to the staff member. Examples are: Presenter, webinars, group meetings, Skype, staff member teams, conferences, blogs support groups, working with vendors, before, after and offsite school workshops. The goal is to expand the knowledge to help acquire 21st century skills for the professionals. New knowledge will relate to and practice with methods to encourage student-centered teaching and assessment in a digital environment. Using technology individually and infusing technology to teach the students is totally different concept. Taking a digital device and producing a product in a different manner is not infusing technology. For example, just making flash card on a word processing application rather than just using a deck of flashcards is using just technology. The activity must be a problem solving requirement. Again, taking a flash card and making it a 3D object is an example of infusing technology. Whereas, the need is to use a cad type program while performing mathematical calculations

to create a 3D flash card would require problem solving. This type of problem solving requires a higher level of thinking. The application must be student driven to produce a different outcome not just recall. The SAMR and Bloom's model addresses this type of technology infusion. The teacher needs to target the higher-order cognitive skills (Bloom's) as well as design a task that have a significant impact of student outcomes (SAMR) [21](http://www.schrockguide.net/samr.html, Dr. Ruben Puentedura). Dr. Ruben Puentedura states the SAMR model must enable teachers to design, develop and infuse digital learning experiences that utilize technology. The goal is to transform learning experiences so they result in high levels of achievement for students [22](http://www.schrockguide.net/samr.html)



(http://www.hippasus.com/rrpweblog/archives/2014/10/29/SAMRForLeadership_BeyondTheBasics.pdf)

Some learning models used in the district include but not limited to are: blended, connected, flipped classroom, constructivism, game, project, inquiry, team based and individual learning. Teachers are exposed to and instructed on different models during professional development and are encouraged to vary their lessons. Also, the district is presently using researched base *RTI* instruction and combining it with the digital learning environment. The district is providing technology training but it is not as individualized as desired. However, there are FAQ's and Instruction documents located in several places for the staff to access including online.

Teachers do actively participate in local and national professional learning groups whether in district or remotely. These groups will focus on making the application of digital learning more individual. This goal will afford the necessary motivation to create a digital learning classroom. The goal and objectives will highlight and expand on the different models including peer reviewed and researched.

[21] http://www.schrockguide.net/samr.html
[22] http://www.schrockguide.net/samr.html

Objective 1 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Connectivity and Collaboration including online management All subject areas Math LA Science, Social Studies Related Arts ✹Attain necessary skills to integrate online connectivity and collaboration between the home and school	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Provide training to use and integrate connectivity and collaboration for online management ✹Training/Workshop on learning models and infusion of digital tools ✹Department/grade level meetings and also peer observation	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016- July 2017 October 2017- July 2018 October 2018- July 2019	Consultant Recommendation Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Professional Development Teacher recommendation Vendor Recommendation	✹Successful implementation witnessed with teacher observation lesson plans and student assessments, Strong assessments, SGO's ✹Self-evaluation and assessment and the need to align with the 21st century learning standards.	BOE/Budget Shamong Foundation HSA (parent/home) ERATE Seek Grants Lease Option

Objective 2 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
APPS All subject areas Math LA Science, Social Studies Related Arts ✹Research, evaluate and then procure apps that will align with digital learning and give a deeper knowledge of concepts	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Provide training to use APPS and integrate lessons for a digital rich learning classroom ✹Provide Understanding of copyright laws	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016- July 2017 October 2017- July 2018 October 2018- July 2019	Consultant Recommendation Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Professional Development Teacher recommendation Vendor Recommendation	✹Successful implementation witnessed with teacher observation lesson plans student assessments Strong assessments, SGO's	BOE/Budget Shamong Foundation HSA (parent/home) ERATE Seek Grants Lease Options

Objective 3 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Online Subscriptions All subject areas Math LA Science, Social Studies Related Arts ✸Research, evaluate, and then secure online subscriptions that will provide a digital learning experience	Curriculum Coordinator Principal Superintendent Technology Coordinator	✸Provide training to use APPS and integrate lessons for a digital rich learning classroom ✸Understand copyright laws	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016- July 2017 October 2017- July 2018 October 2018- July 2019	Consultant Recommendation Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Professional Development Teacher recommendation Vendor Recommendation	✸Successful implementation witnessed with teacher observation lesson plans student assessments Strong assessments, SGO's	BOE/Budget Shamong Foundation HSA (parent/home) ERATE Seek Grants Lease Options

Objective 4 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Digital Text Books, E-Books All subject areas Math LA Science, Social Studies Related Arts ✹Research, evaluate and procure digital text book that complement the district curricula guidelines.	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Provide training to use APPS and integrate lessons for a digital rich learning classroom ✹Understand copyright laws	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016- July 2017 October 2017- July 2018 October 2018- July 2019	Consultant Recommendation Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Professional Development Teacher recommendation Vendor Recommendation	✹Successful implementation witnessed with teacher observation lesson plans student assessments Strong assessments, SGO's	BOE/Budget Shamong Foundation HSA (parent/home) ERATE Seek Grant Lease Options

Objective 5 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Blended Reality All subject areas Math LA Science, Social Studies Related Arts BR is a 3D scanning solution with 3D object capture, editing and multiple streamlined 3D print options. Students can scan something from the real world, manipulate it in the digital world, and bring it to life in physical space giving students the ability to problem solve, create and have experience with engineering ✹Research, evaluate and procure Blended Reality software, to give the opportunity to experience an authentic real world work project	Technology Coordinator Curriculum Coordinator Principal Superintendent	✹Provide training to use APPS and integrate lessons for a digital rich learning classroom ✹Understand copyright laws ✹Investigate Researched base models	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016- July 2017 October 2017- July 2018 October 2018- July 2019	Consultant Recommendation Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Professional Development Teacher recommendation Vendor Recommendation	✹Successful implementation witnessed with teacher observation lesson plans student assessments Strong assessments, SGO's	BOE/Budget Shamong Foundation HSA (parent/home) ERATE Seek Grants Lease Options

Objective 6 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Virtual Reality Math, LA, Science, Social Studies, Related Arts BR is a 3D scanning solution with 3D object capture, editing and multiple streamlined 3D print options. Students can scan something from the real world, manipulate it in the digital world, and bring it to life in physical space giving students the ability to problem solve, create and have experience with engineering ✹Research, evaluate and procure Virtual Reality device for student centered learning with a 3D pseudo real life experience to give a deeper understanding of complex models	Technology Coordinator Curriculum Coordinator Principal Superintendent	✹Provide training to use APPS and integrate lessons for a digital rich learning classroom	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016- July 2017 October 2017- July 2018 October 2018- July 2019	Consultant Recommendation Research by Curriculum Coor . Research by Technology Coor. Data Driven based on usage/surveys Professional Development Teacher recommendation Vendor Recommendation	✹Successful implementation witnessed with teacher observation lesson plans student assessments Strong assessments, SGO's	BOE/Budget Shamong Foundation HSA (parent/home) ERATE Seek Grants Lease Options

Technology Plan
July 2016– June 2019
Shamong School District - 4740
Indian Mills Memorial Middle School - 050
Curriculum

Goal #1

To provide an omnipresent systematic cultural rich digital learning environment in all fifth to eighth grade classrooms that will be aligned to the Common Core and Technology Standards and the learning needs of students to engage and empower them to be self-motivated lifelong problem solvers.

The district is establishing a new undertaking to prepare our students to be successful citizens in society by transforming to digital learning. High standards that are consistent across states provide teachers, parents, and students with a set of clear expectations to ensure that all students have the skills and knowledge necessary to succeed in college, career, and life upon graduation from high school, regardless of where they live. The word "adaptive" is increasingly being used in claims describing how technologies uniquely personalize and individualize education for each student [23](http://www.dreambox.com/white-papers/importance-selecting-digital-curricula#sthash.QnhAz2AM.dpuf). These combined standards are the genesis of creating an infused digital learning environment for all learners. Designing education to meet the needs of society is a top priority of our education systems. "Educated workers need a conceptual understanding of complex concepts, and the ability to work with them creatively to generate new ideas, new theories, new products and new knowledge" [24](http://neric.org/Smart_Schools/pdfs/transforming_schools.pdf). With this concept comes the realization that with a long term initiative, it is difficult to select concrete resources; rather, research and adapt to new innovations as they come along. As long as the vision of instructional pedagogy is stable and the acquisition process is in place the digital classroom will increase its inventory of hardware, resources and practices as time goes on.

These standards are aligned to the expectations of colleges, workforce training programs, and employers. The standards promote equity by ensuring all students are well prepared to collaborate and compete with their peers in the United States and abroad. Unlike previous state standards, which varied widely from state to state, the Common Core enables collaboration among states on a range of tools and policies [25](http://www.corestandards.org/about-the-standards). The district curriculum is not only aligned with the Common Core but also the NJ DOE Technology Standards 8.1 and 8.2. Mastery of 8.1 is required to participate in daily activities and not considered a separate subject. It is infused in everyday curriculum; some examples include Moodle Submissions, Google Classroom, Blogging and through online evaluations such as PARCC and teacher created interactive digital tests.

The transformation of learning is lending to the model of personalized and differentiated learning for each student based on his/her proficiencies, learning styles and interests. Technology skills lends to the initiative to promote these styles of learning

[23] http://www.dreambox.com/white-papers/importance-selecting-digital-curricula#sthash.QnhAz2AM.dpuf
[24] http://neric.org/Smart_Schools/pdfs/transforming_schools.pdf
[25] http://www.corestandards.org/about-the-standards

[26](http://neric.org/Smart_Schools/pdfs/transforming_schools.pdf). Assessment is a necessary tool to produce data to transform the learning environment. Such assessments are aligned to the vision for digital learning and include assessments for all learning standards, 21st Century skills. Student projects involve peer review and revision, as well as self-assessment, empowering them to excel [27](http://app.njtrax.org/digital-learning/framework). Data will drive instruction in the digital classroom to engage students to be self-motivated and become personally responsible for their learning.

Digital tools are transforming essential elements of the education space. The expectation is to facilitate a data driven informed comprehensive plan improving the general classroom curriculum with digital learning. Through research, meetings, trainings and collaboration this will be a team effort revolutionizing the learning environment to educate students to prepare them to live, work and excel in a ubiquitous digital global society. Students will need to employ skills that will help them discover solutions through research critical thinking, creativity and collaboration skills. These personalized skills must be acquired through the use of universal designed learning and various resources for students to master the core concepts. Canned software packages are not used in place of teacher instruction rather current digital tools enhance student learning. Digital learning in isolation is not a best practice.

The school utilizes many programs to reduce performance gaps and support equity for all students. IPads and apps are provided for designated students that are communications impaired. Every classroom has a FM sound system installed and there are future plans to have the sound routed through the Smartboards. Due to a limited diversity in the district we do not experience equity issues involving race. Teachers use motivational strategies to encourage all students toward individual goals. For particularly challenged students, teachers create a series of small goals so each student can see success while moving towards the main goal. Students have personalized and differentiated learning experiences with many of the district apps and online subscriptions. Teachers will have personalized learning experiences when the blended learning objective is implemented.

Although the curriculum is aligned with the Common Core Standards as well as the DOE Technology Standards 8.1 and 8.2 more planning and implementation must be initiated. Movement towards more of STEM/STEAM and blended learning models must be incorporated into the lesson plans. Using the Common Core Standards, digital tools and learning how to infuse technology they will be able to manufacture their own instruction and assessment. Having a variety resources available to them will better their skills to reach all learning styles fulfilling the differentiated model. Increasing the digital device inventory and offering a robust professional development program will expand the digital learning environment satisfying this goal.

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[26] http://neric.org/Smart_Schools/pdfs/transforming_schools.pdf

[27] http://app.njtrax.org/digital-learning/framework

Objective 1 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Connectivity/Collaboration All subject areas Math LA Science Social Studies Related Arts ✹Connectivity of learning through Online Management Programs and parent engagement (i.e Google Classroom) Moodle ✹Parents and students understand the value of a digital learning environment ✹Understand real world career connections digitally and face-to-face Person ✹Encourage practices that are inclusive of all type of students; race, gender, disabilities	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Research and procure digital resources by teachers through teams/grade levels to connect to learning communities (Professional Development Goal addresses the learning/developing digital content) Continue to use the MOODLE and expand on its capabilities Blog Sites for reading & writing ✹Research and procure career specialist/community leaders to make real world connections to learning with our students ✹Provide Understanding of copyright laws	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Consultant Recommendation Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Professional Development Teacher Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Stronge assessments, SGO's Parent surveys	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 2 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
APPS All subject areas Math, LA, Science, Social Studies, Related Arts ✹Digital learning and involvement with APPS that will promote a deeper personal learning experience ✹Encourage practices that are inclusive of all type of students; race, gender, disabilities	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Research and procure digital online sources by all teachers through teams/grade levels to acquire different models for student self-centered involvement practice and assessment ✹Provide Understanding of copyright laws ✹Teachers begin to devise lessons to include digital content	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Stronge Assessments, SGO's Parent surveys	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 3 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Online Subscriptions/Learning Environments All subject areas Math LA Science Social Studies Related Arts ✹Digital online learning to augment classroom resources for class work and assessments. Such as Brainpop, Study Island, MAPS…. ✹Encourage practices that are inclusive of all type of students; race, gender, disabilities	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Research and procure digital online sources by all teachers through teams/grade levels to acquire different modes for students self- involvement practice and assessment Writing Essays Vocabulary PBS Animal Planet Quiz Site ✹Provide Understanding of copyright laws	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Stronge Assessments, SGO's Parent surveys Vendor Recommendations	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 4 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
✹**E"-Books, Digital Books** All subject areas Math LA Science Social Studies Related Arts ✹To add another flexible resource to the digital classroom rather than a hardbound book once the school becomes a 1:1 ratio of device to student ✹Encourage practices that are inclusive of all type of students; race, gender, disabilities	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Research and procure digitized textbooks by curriculum coordinator and staff that can be used anywhere anytime Journeys Math In Focus Discovery Education Learning Ally ✹Provide Understanding of copyright laws ✹Teachers start devising lessons with digital content	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Stronge Assessments, SGO's Parent surveys Vendor Recommendations	BOE/Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 5 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Blended Learning ✹To create more lessons to include web based learning add to face-to-face instruction a All subject areas Math LA Science Social Studies Related Arts	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Teachers will view online learning modules to add to face-face ✹Teachers will be given the opportunity with outside districts working towards collaboration and web based learning ✹Develop and add more blended learning lessons plans ✹Provide Understanding of copyright laws	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation Vendor Recommendation	✹Successful implementation witnessed with Teacher Observation Lesson Plans Student Assessments Stronge Assessments, SGO's Parent surveys Vendor Recommendations	BOE/Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 6 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Object 6: **Virtual Reality – 3D and Blended Reality Learning** **VR blends the real world with the virtual** Science and Math Students can make direct connections between real life/world concepts otherwise unavailable physically to them giving them a differentiated learning experience ✹A device for student-centered learning that gives a pseudo 3D real life experience for analyzing, measuring, annotating, modeling manipulation, creating, dissecting and constructing a desired outcome	Technology Coordinator Curriculum Coordinator Principal Superintendent	✹Research, explore and procure devices that offer virtual reality in the classroom that are relative to the school aged students Ex: construct, model, create, explore, dissect, develop a process To bring STEAM into the digital classroom ✹Create lessons plans to include STEM activities	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Stronge Assessments, SGO's Parent surveys Vendor Recommendations	BOE/Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

The table below list the online sites that the middle school now uses and will expand to support the digital learning environment. By the end of this plan no longer will textbooks be the major resource in the classroom. Teachers are no longer sages on the stage but facilitating the learning process; guiding students to different resources such as the sites listed below that are not inclusive.

Read 180	READ Works	All POR Math	Aleks
Glogster	ThinkCentral	BrainPOP	RandMcNally
Stratlogica	Acceleraed Reader	Website Builder	Discover Education
Moby Max	Measuring Up Lives	StudyStack	Kohoot.it
getKahoot.com	Quizlet	Smart Exchange	Kubbu
Qzzr	Sporcle	Quiziz	Zondle
Hstry.co	Booktrackclassroom	Web.seesaw.me	Zaption
Edueto	zapt.io/ts3kcguq	schoolology	Clever
Edmondo	Studyblue	mygradebook	Flippquiz
Math-play	Multiplication	Jeopardylabs	Play2pass
financeintheclassroom	Journeys for Language Arts	Math in Focus	Learnzillion
Animal Planet	PBS	Quizz for Mor Plickers	Learning Alley Audio Books
Google Classroom	Google Forms	Alexandria Researcher	Noodletools
EBSCohost	Google Slides	Google Docs	Typing
Newsela	Teacher Kit	Classzone for Spanish	Chatterpix
Rockalingua	Quia	Sr. Wooly	Teacher Tube
Youtube	Nitrotype	Info Lit Kids	Paperrater
Scholastic	Google Slides	Google Docs	TinkerCad
ProLoQuo	Lance Words For		

Technology Plan
July 2016– June 2019
Shamong School District - 05-4740
Indian Mills Middle School - 050

Hardware

Goal #2

To secure, maintain and achieve a one to one solution of devices for fifth through eighth grades to support a digital learning environment encompassing the Common Core Curriculum and Technology Standards including assistive technologies, PARCC testing and students' needs enhancing a higher learning environment.

The school recognizes the necessity to equip the digital classroom with 21st century tools that align with the Common Core, Technology standards and the needs of the students. The plan is to provide each student with their own Internet connected device to have equitable access and support individualized learning with a one to one initiative. The hardware will be driven by the necessary programs that will foster creativity, collaboration, communication, connectivity and a higher skill set for problem solving.

As with goal one this goal also includes utilizing current trends and practices in education while anticipating emerging and future developments. PARCC recommendations will be cognizant when selecting and purchasing hardware. Due to the exponential growth rate of technologies and the fluctuating availability of funding, specifics are difficult to predict. This outlined framework is intended to continually evolve to be a successful three-year plan. Thus individual timelines are not outlined as this is a constant working document in progress. The technology coordinator will always be searching, recommending and procuring the necessary hardware.

The middle school has two Windows 7 computer labs, two win 7 mobile laptop carts, one IPad cart and eleven Chromebook carts. The outdated one hundred Windows XP computers that the district had were reconfigured to be Internet only devices. A one to one ratio of student to mobile device is the goal the school is working towards and should become a reality by the 2019 school year. Every room has a Smartboard Interactive Board, projector and document camera. Many of the teachers have an iPad for teaching that is connected to the Smartboard with an Apple TV.

The district is moving towards a paperless environment. There are printing stations throughout the district however, once the educational printers reach end of life they will not be individually replaced. New copiers with managed software that will stationed in the media center will be used as a printer, scanner as well as copying. Students and staff will be able to send print jobs to the copier and retrieve them using a code. The school board of education meetings are now paperless. A web-based application is used by the board office, board members and the public for board of education meetings. This project will help to cut down on costs including paper, ink and maintenance and a means to ensure privacy. The school also has a 3D printer that is being used by students working in cad apps to create a 3D object.

We know that providing an efficient and effective hardware maintenance program will assure that the curriculum continues smoothly thus keeping the digital environment successful. Along with the technology coordinator there is one full time technician and a one day a week upper level technician. Staff uses a *HelpDesk* application that provides solutions usually within 24 hours or less. The technology department tracks the helpdesk tickets and offers improvements for simple problem

solving. A device will be replaced if the problem cannot be solved. An up-to-date inventory database is maintained to insure hardware integrity.

The technology department works very closely with the maintenance department to assure the quantity of power is available, all safety requirements are met and the room availability for devices. Meetings occur daily to maintain integrity all of working and functional conditions for the school.

In the fall there will be a meeting to modify and manifest with the administrative team stake holders for a reflection and any needs for adjustment with the plan. Objective's four and five outline hardware that is considered STEM oriented. With that the determination will be made and planned out whether to metamorphasize one of the computer labs into a STEM lab. Looking at the labs usage schedules and the age of the devices will be determining factors. When a recommendation is made by any member and deemed necessary the digital technology plan will be adjusted. The financial cost will be planned in the following school year's budget. The reflection and adjustment meeting assures the integrity of the digital learning environment.

Objective 1 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Internet based hardware for Connectivity, APPS Collaboration, and Online subscriptions for digital learning classroom All subject areas Math LA Science Social Studies Related Arts, Library ✹ Provide digital internet based hardware that supports and augments the digital learning environment and PARCC testing	Technology Coordinator Superintendent Principal	✹Staff, teams, librarians and administrators will all research, evaluate and then procure devices to promote digital learning giving a deeper value to academics	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation	✹ Successful procurement of devices to build the inventory and have a greater selection of tools for all learning styles ✹Comprehen-sive Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 2 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Printers **Copiers** **Scanners** **That provide privacy and tracking software** All subject areas Math LA Science Social Studies Related Arts, Library ✹Provide the necessary hardware to complete projects, collaborate communicate to enhance a higher level of thinking	Technology Coordinator Superintendent Principal Technology Teacher	✹Technology coordinator, staff and administrators research, evaluate and recommend hardware for purchases ✹Research and procure data base tracking software for user output and use of copiers	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Technology Coor. Teacher Recommendation Consultant Recommendation Vendor Recommendation	✹ Successful procurement of devices to build the inventory and have a greater selection of tools for all learning styles ✹Comprehen-sive Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 3 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Digital devices for pleasure reading All subject areas Math LA Science Social Studies Related Arts, Library ✹ Provide pleasure digital reading books. Reading builds empathy and improves wellbeing and increases reading fluency. (readingagency.org) Creating a digital "reading area" in the library will excite the students to read especially on some type of "fun" chairs	Technology Coordinator Superintendent Principal Technology Teacher	✹ Librarian, technology coordinator, technology teacher, principals research, evaluate and procure necessary digital reading devices. Also research, evaluate and procure some type of "fun" reading chairs for the library ✹Arrange library to accommodate a comfortable reading area	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Technology Coor. Data Driven based on usage/surveys Staff Recommendation Librarian Recommendation Consultant Recommendation Vendor Recommendation	✹ Successful procurement of devices to build the inventory and have a greater selection of tools for all learning styles ✹Comprehen-sive Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 4 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Blended Reality Digital Devices All subject areas Math LA Science Social Studies Related Arts, Library ✹Provide devices that will promote, creativity, problem solving, collaboration, and innovative thinking in a safe environment using	Technology Coordinator Technology Teacher Superintendent Principal	✹ Technology coordinator, staff and principal research, evaluate and procure Blended Reality Devices ✹ Technology coordinator, staff and principal research, evaluate, discuss the transformation of the computer lab into a STEM Lab	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016- July 2017 October 2017-July 2018 October 2018-July 2019	Research by Technology Coor. Data Driven based on usage/surveys Staff Recommendation Consultant Recommendation Vendor Recommendation	✹ Successful procurement of devices to build the inventory and have a greater selection of tools for all learning styles ✹Comprehen-sive Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 5 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Evaluation Indicators	Evaluation Indicators	Budget Source
Virtual Reality All subject areas Math LA Science Social Studies Related Arts Library ✹Science and Math Students can make direct connections between real life/world concepts otherwise unavailable physically to them giving them a differentiated learning experience	Technology Coordinator Technology Teacher Curriculum Coordinator Superintendent Principal	✹ Research, evaluate and procure Virtual Reality devices for student centered learning with a 3D pseudo real life experience to give a deeper understanding of complex models ✹ Technology coordinator, staff and principal research, evaluate, discuss the transformation of the computer lab into a STEM Lab	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016- July 2017 October 2017- July 2018 October 2018- July 2019	✹ Successful procurement of devices to build the inventory and have a greater selection of tools for all learning styles	✹ Successful procurement of devices to build the inventory and have a greater selection of tools for all learning styles ✹Comprehen-sive Database	BOE Budget Shamong Foundation HSA ERATE Seek Grant Lease Options

Technology Plan
July 2016– June 2019
Shamong School District - 4740

Indian Mills Memorial Middle School – 050

Software

Goal #3
To attain the necessary digital software, APPS, Online Subscriptions to personalize learning through differential modes to ensure successful students in the fifth through eighth grades.

Education is engulfed in a paradigm shift to transform classrooms to a digital rich learning environment that contains many resources to foster a universal designed learning experience. Changing attitudes about technology in school and at home have popularized mobile learning. Aligned with the Core Content, Technology Standards and students' needs, variable content is required to facilitate a creative and innovative literacy to understand the core elements. Students must be engaged and responsible for their learning to make it meaningful to them. The key to successful technology integration is the efficient use of digital tools that are appropriate for the task [28](http://gettingsmart.com/2013/07/using-samr-to-teach-above-the-line). Learning technology is the broad range of communication, information and related technologies that can be used to support learning, teaching, and assessment. Learning technologists are people who are actively involved in managing, researching, supporting or enabling learning with the use of learning technology [29](https://www.alt.ac.uk/about-alt/what-learning-technology).

Apps have transformed from skill based learning to mobility usage, independent work, assessment and instructional. Apps are very popular among students as they gravitate to them due to their learning style. Apps are transforming the learning model from teacher face-to-face instruction to more web based interaction. With another resource for students to learn with addresses the need for universal learning giving student different modalities. One of the biggest revolution of using apps is with state online testing, PARCC. Students received the testing model much better then did their elders. One reason is that students reside and live in a very digital rich environment that is very well known to them. Whereas, educators are just realizing that the learning environment must accommodate the new student learner with their digital learning environment. Changing attitudes about technology in school and at home have popularized using apps and mobile learning.

[28] http://gettingsmart.com/2013/07/using-samr-to-teach-above-the-line
[29] http://gettingsmart.com/2013/07/using-samr-to-teach-above-the-line

Objective 1 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Objective 1: Connectivity/Collaboration also for online management All subject areas Math LA Science Social Studies Related Arts ✹Connectivity of learning through Online Management Programs and parent engagement (i.e Google Classroom) Moodle ✹Parents and students understand the value of a digital learning environment ✹Understand real world career connections digitally and face-to-face Person ✹Encourage practices that are inclusive of all type of students; race, gender, disabilities	Technology Coordinator Curriculum Coordinator Principal Superintendent	✹Aligning digital curriculum to the Common Core the need to provide thought provoking tools for Connectivity of learning through Online Management Programs and parent engagement (i.e Google Classroom) Moodle, Study Island, Brain Pop…etc ✹ Through the efforts of teams/grade levels and student involvement to research, evaluate and procure resources for the digital learning environment ✹Research and procure career specialist/community leaders to make real world connections to learning with our students ✹Provide Understanding of copyright laws	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Consultant Recommendation Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Professional Development Teacher Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Stronge Assessments, SGO's Parent surveys	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 2 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
APPS All subject areas Math LA Science Social Studie Related Arts ✹Digital learning and involvement with APPS that will promote a deeper personal learning experience ✹Encourage practices that are inclusive of all type of students; race, gender, disabilities	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Research and procure digital online sources by all teachers through teams/grade levels to acquire different models for student self-centered involvement practice and assessment ✹Teacher add digital lessons plans ✹Provide Understanding of copyright laws	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Stronge Assessments, SGO's Parent surveys Additions Software in Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 3 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Online Subscriptions for Learning Environments All subject areas Math LA Science Social Studies Related Arts ✹Digital online learning to augment classroom resources for class work and assessments. Such as Brainpop, Study Island, MAPS…. ✹Encourage practices that are inclusive of all type of students; race, gender, disabilities	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Research and procure digital online sources by all teachers through teams/grade levels to acquire different modes for students self- involvement practice and assessment Writing Essays Vocabulary PBS Animal Planet Quiz Site ✹Provide Understanding of copyright laws Teachers create digital lessons plans and begin the process to develop a digital environment	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Stronge Assessments, SGO's Parent surveys Additions Software in Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 4 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
✹**E"-Books, Digital Books** All subject areas Math LA Science Social Studies Related Arts To add another flexible resource to the digital classroom rather than a hardbound book once the school becomes a 1:1 ratio of device to student ✹Encourage practices that are inclusive of all type of students; race, gender, disabilities	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Research and procure digitized textbooks by curriculum coordinator and staff that can be used anywhere anytime Journeys Math In Focus Discovery Education Learning Ally ✹Provide Understanding of copyright laws ✹Teachers create lessons plans to include digital reading	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Stronge Assessments, SGO's Parent surveys Additions Software in Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 5 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Blended Learning ✹ To create more lessons to include web based learning add to face-to-face instruction ✹To add another flexible resource to the digital classroom rather than a hardbound book once the school becomes a 1:1 ratio of device to student	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Teachers will view online learning modules, for problem solving skills ✹Teachers will be given the opportunity with outside districts working towards the same goals ✹Research blended learning lessons plans Research websites to add digital lessons to the learning environment ✹Encourage practices that are inclusive of all type of students; race, gender, disabilities ✹Provide Understanding of copyright laws	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Stronge Assessments, SGO's Parent surveys Additions Software in Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 6 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Object 6: **Virtual Reality – 3D and Blended Reality Learning** **VR blends the real world with the virtual** Science and Math Students can make direct connections between real life/world concepts otherwise unavailable physically to them giving them a differentiated learning experience ✹A device for student-centered learning that gives a pseudo 3D real life experience for analyzing, measuring, annotating, modeling manipulation, creating, dissecting and constructing a desired outcome	Technology Coordinator Curriculum Coordinator Principal Superintendent	✹Research, explore and procure devices that offer virtual reality in the classroom that are relative to the school aged students Ex: construct, model, create, explore, dissect, develop a process To bring STEAM into the digital classroom ✹Research devices for student-centered learning that gives a pseudo 3D real life experience for analyzing, measuring, annotating, modeling manipulation, creating, dissecting and constructing a desired outcome	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Stronge Assessments, SGO's Parent surveys Additions Software in Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Technology Plan
July 2016– June 2019
Shamong School District - 4740
In Indian Mills Elementary School – 055
Curriculum

Goal #1:

To provide an omnipresent systematic cultural rich digital learning environment in all kindergarten to fourth Grade classrooms that will be aligned to the Common Core and Technology Standards and the learning needs of students to engage and empower them to be self-motivated lifelong problem solvers.

A major influence that is driving the creation digital learning results from acknowledging the reality of the way society works, communicate and recreates today. No longer can it be ignored that the ubiquity of technology as it is welcomed in today's society, education must also embrace it with teaching. To inspire engagement, classrooms must be transformed to keep pace with students who operate in an increasingly mobile world where information and communication are accessed 24/7 through smartphones, laptops, and tablets [30](http://www.dreambox.com/white-papers/blended-learning-innovations-10-major-trends#sthash.5gXQO51v.dpuf). The transformation to a digital learning classroom has already begun, but the journey will be a long and altering. With the constant rate of changing technology, the plan will need to be adapted yearly to keep it mainstreamed. With that long term initiative, it is difficult to select concrete resources, rather than research and adapt to new innovations as they advance. As long as the vision of instructional pedagogy is stable and the acquisition process is in place the digital classroom will increase its inventory of hardware, resources and practices as time goes on.

Decisions related to technology, devices, networks, and infrastructure are driven by the learning needs of students in a culture of digital responsibility. The educators who teach in these digital learning environments have the skills to adopt and adapt to new technologies, using filters that ensure that the use of technology adds value to the learning process [31](http://app.njtrax.org/digital-learning/framework). While a select group of ten teachers visiting ISTE in Philadelphia in the summer of 2015 was amazing. Offered were STEM/STEAM devices that would engage the students to have fun while learning. We purchased two types of robotics called *Ozobots* and *Spheros* that were added as another source to the STEM lessons.

New on the technology horizon is learning environments of blended and virtual reality. These environments offer three-dimensional learning shifting the focus of the classroom environment. Students use disciplinary core ideas and crosscutting concepts with scientific practices to explore, examine, and explain how and why phenomena occur to design solutions to problems [32](http://www.activatelearning.com/3-dimensional-learning). Although STEM is leveraged at all grade levels students need to makes sense of phenomena and design solutions for problems by scientific and engineering practices working together as if in the real world [33](http://www.activatelearning.com/3-dimensional-learning). Blended and virtual reality represents an entirely new way of thinking and teaching.

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[30] http://www.dreambox.com/white-papers/blended-learning-innovations-10-major-trends
[31] http://app.njtrax.org/digital-learning/framework
[32] http://www.activatelearning.com/3-dimensional-learning/
[33] http://www.activatelearning.com/3-dimensional-learning/

Even though the elementary students are far from reaching their entrance into society, it is at these grade levels that the foundation for digital learning is set. The curriculum is aligned to the Common Core and Technology 8.1 and 8.2 Standards. By fourth grade (the benchmark for fourth grade Technology Standard 8.) all students have met the standards due to the mastery of all the components through their digital learning environment. Since all the tasks are expected in their course work, no formal assessment is used. Digital learning will foster a deep understanding of basic concepts and problem solving skills to prepare them in their later years. With a personalized self-center learning model and leveraging technology as the empowering tool students will adapt to new technologies. Experimenting with *Blended Learning* teachers are starting to use it as a new learning model. Personalized and differentiated instruction is part of the *Blended Learning* model making the experience meaningful to the learner. Presently fourth grade is involved with using this model.

Assessment is an important part of any program to gage its success. Education has several modes of assessment and many now are digitally acquired. Such assessments are aligned to the vision for digital learning and include assessments for all learning standards, 21st Century skills. Student projects involve peer review and revision, as well as self-assessment, empowering them to excel. The staff actively use data to guide decisions related to curriculum, content, instructional strategies, and assessments [34] (http://app.njtrax.org/digital-learning/framework). One example at the Elementary School is the use of MAPS for first and second grade and PARCC. The data from these assessments plus others initiates the adaptation to offer different learning styles and modes in their classrooms. Incorporating a variety of contexts of face-to-face, self-directed, blended, technology and distance learning modes are all effective in designing and delivering learning activities to ensure that future development is pedagogically sound, learner focused and accessible [35](Helen Beetham, 2007).

Digital tools are transforming essential elements of the education space. The expectation is to facilitate a data driven informed comprehensive plan improving the general classroom curriculum with digital learning. Through research, meetings, trainings and collaboration this will be a team effort revolutionizing the learning environment to educate students to prepare to live, work and excel in a ubiquitous digital global society. Students will need to employ skills that will help them discover solutions through research critical thinking, creativity and collaboration skills. These personalized skills must be acquired through the use of universal designed learning and various resources for students to master the core concepts.

The school is cognizant of supporting equity for all students to try to elevated performance gaps. Each classroom has a FM sound system for all students to benefit not just for special education. Specific hardware and apps are purchased and used in

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[34] http://app.njtrax.org/digital-learning/framework

[35] Helen Beetham, R. S. (2007). *Rethinking Pedagogy for a Digital Age.* https://books.google.com/books/about/Rethinking_Pedagogy_for_a_Digital_Age.html?id=ix2I9H0qHu4C: Routledge.

classrooms for the hearing impaired for communication. The district has a limited diverse population so there is no equity issues involving race. Canned software programs are being replaced by teachers utilizing programs to support personalized and differentiated learning via different resources the district offers.

With *Blended Learning* models being research and offered in professional development the new teaching techniques will be applied using the Common and Technology 81. And 8.2 standards. The school, through this plan will work on the curricula improvement and move towards more STEM/STEAM activities to strengthen problem solving sills. Providing the necessary tools and staff development will make this goal successful.

Objective 1 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Connectivity **Collaboration** All subject areas Math LA Science Social Studies, Related Arts ✹Connectivity of learning through Online Management Programs and parent engagement (i.e Google Classroom) Moodle ✹Parents and students understand the value of a digital learning environment ✹Understand real world career connections digitally and face-to-face person ✹Encourage practices that are inclusive of all type of students; race, gender, disabilities	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Research and procure digital resources by teachers through teams/grade levels to connect to learning communities (Professional Development Goal addresses the learning/developing digital content) Continue to use the MOODLE and expand on its capabilities Blog Sites for reading & writing ✹Provide Understanding of copyright laws	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Consultant Recommendation Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Professional Development Teacher Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Vendor Assessments Parent Surveys	BOE Budget Shamong Foundation HSA ERATE Seek Grant Lease options

Objective 2 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
APPS All subject areas Math LA Science Social Studies Related Arts ✹Digital learning and involvement with APPS that will promote a deeper personal learning experience	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Research and procure digital online sources by all teachers through teams/grade levels to acquire different models for student self-centered involvement practice and assessment ✹Provide Understanding of copyright laws	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Consultant Recommendation Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Professional Development Teacher Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Vendor Assessments Parent Surveys	BOE Budget Shamong Foundation HSA ERATE Seek Grant Lease options

Objective 3 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Online Subscriptions/Learning Environments All subject areas Math LA Science Social Studies Related Arts Arts ✸Digital online learning to augment classroom resources for class work and assessments. Such as Brainpop, Study Island, MAPS….	Curriculum Coordinator Principal Superintendent Technology Coordinator	✸Research and procure digital online sources by all teachers through teams/grade levels to acquire different modes for students self- involvement practice and assessment Writing Essays Vocabulary PBS Animal Planet Quizz ✸Provide Understanding of copyright laws	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation Vendor Recommendation	✸Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Vendor Assessments Parent Surveys	BOE Budget Shamong Foundation HSA ERATE Seek Grant Lease options

Objective 4 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
✹E"-Books, Digital Books All subject areas Math LA Science Social Studies Related Arts Arts ✹To add another flexible resource to the digital classroom rather than a hardbound book once the school becomes a 1:1 ratio of device to student	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Research and procure digitized textbooks by curriculum coordinator and staff that can be used anywhere anytime Journeys Math In Focus Discovery Education Learning Ally ✹All lessons to include digital media ✹Provide Understanding of copyright laws	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Vendor Assessments Parent Surveys	BOE Budget Shamong Foundation HSA ERATE Seek Grant Lease options

Objective 5 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Blended Learning All subject areas Math LA Science Social Studies Related Arts Arts ✹Collaboration and problem solving through an online learning experience	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Teachers will view online learning modules, problem solve together and collaborate will the goal of providing the best student learning environment Teachers will be given the opportunity with outside districts working towards the same goals ✹Add blended learning lesson plans	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Vendor Assessments Parent Surveys	BOE Budget Shamong Foundation HSA ERATE Seek Grant Lease options

Objective 6 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Object 6: **Virtual Reality – 3D Learning** **VR blends the real world with the virtual** All subject areas Math LA Science Social Studies Related Arts Arts ✹A devices for student-centered learning that gives a pseudo 3D real life experience for analyzing, measuring, annotating, modeling manipulation, creating, dissecting and constructing a desired outcome	Technology Coordinator Curriculum Coordinator Principal Superintendent	✹Research, explore and procure devices that offer virtual reality in the classroom that are relative to the school aged students Ex: construct, model, create, explore, dissect, develop a process To bring STEAM into the digital classroom ✹Give Science and Math Students activities to connect between real life/world concepts otherwise unavailable physically to them giving them a differentiated learning ✹Add lesson plans to include virtual reality	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Vendor Assessments Parent Surveys	BOE Budget Shamong Foundation HSA ERATE Seek Grant Lease options

The table below list the online sites that the middle school now uses and will expand to support the digital learning environment. By the end of this plan no longer will textbooks be the major resource in the classroom. Teachers are no longer sages on the stage but facilitating the learning process; guiding students to different resources such as the sites listed below that are not inclusive.

Legos	Reading Eggs	Study Island	Reading A-Z
Lymboo Math	Wilson Academy	BrainPop	Tumblebooks
RazKids	Typing Club	Enchanted Learning	Building Blocks
Fact4Me		Thingiverse/Makerbot	Read180
Google Classroom	Google Docs	Google Forms	Google Slides
TinkerCad	Jumpstart	Mathplayground	DanceMatTyping
kids.ikeepsafe		moneyville.co.uk	Secretbuilders
AnimalJam	Tinyplanets	Moshimonsters	StudyIsland
Netsmartzkids	Teaching Strategies Gold	http://www.ezschool.com/	nces.ed.gov
harcourtschool.com	sadlier.oxford.com	ixl.com	illuminations
Google Earth	Pix4Learning	http://mathematics.hellam.net/	http://www.aplusmath.com/
aaaMath	http://nlvm.usu.edu/	http://www.kidsonthenet.org.uk/	http://www.readwritethink.org/
btwaters.com	http://www.sciencekids.co.nz	http://mediasmarts.ca/	http://www.qr-code-generator.com/
voki.com	http://www.mathsisfun.com/	http://www.multiplication.com/	http://www.toonuniversity.com/
wordle	http://nrcrecycles.org/	https://www.tenmarks.com	

Technology Plan
July 2016– June 2019
Shamong School District - 05-4740
Indian Mills Elementary School - 055

Hardware

Goal #2

To secure, maintain and achieve a one to one solution of devices for fifth through eighth grades to support a digital learning environment encompassing the Common Core Curriculum and Technology Standards including assistive technologies, PARCC testing and students' needs enhancing a higher learning environment.

The school understands the necessity to equip the digital classroom with 21st century tools that align with the Common Core, Technology standards and the needs of the students. The plan is to provide each student with their own Internet connected device to have equitable access and support individualized learning with a one to one initiative. The hardware will be driven by the necessary programs that will foster creativity, collaboration, communication, connectivity and a higher skill set for problem solving.

As with goal one this goal also includes utilizing current trends and practices in education while also anticipates emerging and future developments. PARCC recommendations will be cognizant when selecting and purchasing hardware. Due to the exponential growth rate of technologies and the fluctuating availability of funding, specifics are difficult to predict. This outlined framework is intended to continually evolve to be a successful three-year plan. Thus individual timelines are not outlined as this is a constant work in progress document. The technology coordinator will always be searching, recommending and procuring the necessary hardware.

The elementary school has one Windows 7 computer lab, two Windows 7 mobile laptop carts and ten Chromebook carts. The outdated one hundred Windows XP computers that the district had were reconfigured to be Internet only devices. A one to one ratio of student to mobile device is the goal the school is working towards and should become a reality by the 2019 school year. Every room has a Smartboard Interactive Board, projector and document camera. Many of the teachers have an iPad for teaching that is connected to the Smartboard with an Apple TV. There are IPads in use by various students for communcatin purposes. The computer lab has little robots called *Ozobots* and *Spheros* which is a STEM activity that the students code to have them act in particular ways.

There are printing stations throughout the district however, the district is moving toward a paperless environment. Once the printers reach end of life they will not be replaced. The school board of education meetings are now paperless. A web-based application is used for them, the board office and the public. The Board of Education now uses an online program during the meetings without any paper copies. The plan is to have a copier in the Media Center that can be used as a printer, copier and scanner. Students and staff will be able to send print jobs to the copier and retrieve them using a code. This project will help to cut down on costs including paper, ink and maintenance and a means to ensure privacy. The school also has a 3D printer that is being used by students working in cad apps to create objects.

Providing an efficient and effective hardware maintenance program will assure that the curriculum continues smoothly thus keeping the digital environment successful. Along with the technology coordinator there is one full time technician and a

one day a week upper level technician. Staff uses a *HelpDesk* application that provides solutions usually within 24 hours or less. The technology department tracks the helpdesk tickets and offers improvements on simple troubleshooting techniques to the staff. If there is a problematic device and all solutions are exhausted the hardware is replaced. An up-to-date inventory database is maintained to insure its integrity.

The technology department works very closely with the maintenance department to assure the quantity of power is available, all safety requirements are met and there is room availability for devices. Meetings occur daily to maintain integrity all of working and functional conditions. When non acceptable conditions arise, both departments will actively seek solutions.

As a collaborative effort there will be an administrative meeting in the fall that includes the all stakeholders for a reflection and adjustment to the technology plan. Discussion will focus on the learner and what is needed to make the learning environment successful. One of the discussions will be whether to install hardware from Objective 4 and 5 transforming the computer lab into a STEM lab. Based on usage, observations and costs will determine this alternative. When recommendations are made by this team the digital technology plan will be adjusted and the financial cost will be planned in the following school year's budget. The reflection and adjustment meeting assures the integrity of the digital learning environment and permits community input and collaboration.

Objective 1 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Internet based hardware for Connectivity, APPS Collaboration, and Online subscriptions for digital learning classroom All subject areas Math LA Science Social, Studies Related Arts, Library ✹ Provide digital internet based hardware that supports and augments the digital learning environment and PARCC testing	Technology Coordinator Superintendent Principal	✹Staff, teams, librarians and administrators will all research, evaluate and then procure devices to promote digital learning giving a deeper value to academics	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Technology Coor. Teacher Recommendation Consultant Recommendation Vendor Recommendation	✹ Successful procurement of devices to build the inventory and have a greater selection of tools for all learning styles ✹Comprehen-sive Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 2 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Printers **Copiers** **Scanners** **That provide privacy and tracking software** All subject areas Math LA Science Social, Studies Related Arts, Library ✹Provide the necessary hardware to complete projects, collaborate communicate to enhance a higher level of thinking	Technology Coordinator Superintendent Principal Technology Teacher	✹Technology coordinator, staff and administrators research, evaluate and recommend hardware for purchases ✹Research and procure data base tracking software for user output and use of copiers	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Technology Coor. Data Driven based on usage/surveys Consultant Recommendation Librarian Recommendation Staff Recommendation Vendor Recommendation	✹ Successful procurement of devices to build the inventory and have a greater selection of tools for all learning styles ✹Comprehen-sive Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 3 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Digital devices for pleasure reading All subject areas Math LA Science Social, Studies Related Arts, Library ✹ Provide pleasure digital reading books. Reading builds empathy and improves wellbeing and increases reading fluency. (readingagency.org) Creating a digital "reading area" in the library will excite the students to read especially on some type of "fun" chairs	Technology Coordinator Superintendent Principal Technology Teacher	✹Librarian, technology coordinator, technology teacher, principals research, evaluate and procure necessary digital reading devices. Also research, evaluate and procure some type of "fun" reading chairs for the library ✹Arrange library to accommodate a comfortable reading area	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Technology Coor. Data Driven based on usage/surveys Staff Recommendation Librarian Recommendation Consultant Recommendation Vendor Recommendation	✹ Successful procurement of devices to build the inventory and have a greater selection of tools for all learning styles ✹Comprehen-sive Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 4 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Blended Reality Digital Devices All subject areas Math LA Science Social Studies Related Arts Library ✹Provide devices that will promote, creativity, problem solving, collaboration, and innovative thinking in a safe environment using	Technology Coordinator Technology Teacher Superintendent Principal	✹ Technology coordinator, staff and principal research, evaluate and procure devices needed to implement Blended Reality lessons ✹Use devices to add digital lessons	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Technology Coor. Data Driven based on usage/surveys Staff recommendation Consultant Recommendation Vendor Recommendation	✹ Successful procurement of devices to build the inventory and have a greater selection of tools for all learning styles ✹Comprehen-sive Database	BOE Budget Shamong Foundation HAS ERATE Seek Grants Lease Options

Objective 4 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Blended Reality Digital Devices All subject areas Math LA Science Social Studies Related Arts Library ✹Provide devices that will promote, creativity, problem solving, collaboration, and innovative thinking in a safe environment using	Technology Coordinator Technology Teacher Superintendent Principal	✹ Technology coordinator, staff and principal research, evaluate and procure Blended Reality Devices ✹ Technology coordinator, staff and principal research, evaluate, discuss the transformation of the computer lab into a STEM Lab	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016- July 2017 October 2017-July 2018 October 2018-July 2019	Research by Technology Coor. Data Driven based on usage/surveys Staff Recommendation Consultant Recommendation Vendor Recommendation	✹ Successful procurement of devices to build the inventory and have a greater selection of tools for all learning styles ✹Comprehen-sive Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 5 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Evaluation Indicators	Evaluation Indicators	Budget Source
Virtual Reality All subject areas Math LA Science Social, Studies Related Arts, Library ✹Science and Math Students can make direct connections between real life/world concepts otherwise unavailable physically to them giving them a differentiated learning experience	Technology Coordinator Technology Teacher Curriculum Coordinator Superintendent Principal	✹ Research, evaluate and procure Virtual Reality devices for student centered learning with a 3D pseudo real life experience to give a deeper understanding of complex models ✹Technology coordinator, staff and principal research, evaluate, discuss the transformation of the computer lab into a STEM Lab ✹Teachers create lessons to include Virtual Reality	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	✹ Successful procurement of devices to build the inventory and have a greater selection of tools for all learning styles	✹ Successful procurement of devices to build the inventory and have a greater selection of tools for all learning styles ✹Comprehen-sive Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

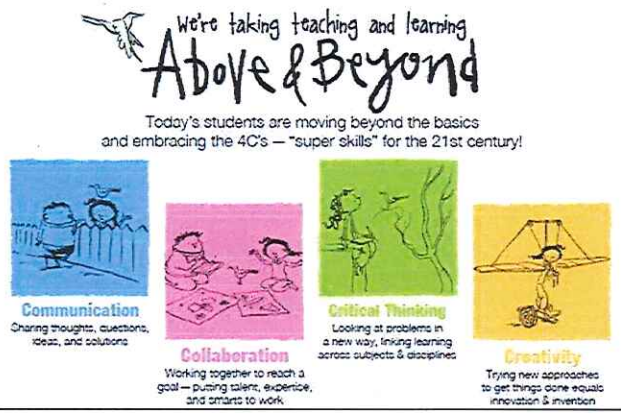
Technology Plan
July 2016– June 2019
Shamong School District - 4740
In Indian Mills Elementary School – 055

Software

Goal #2:
To attain the necessary digital software, APPS, Online Subscriptions to personalize learning through differential modes to ensure successful students in the kindergarten through fourth grades.

Education is engulfed in a dramatic shift transforming classrooms from a stable and static environment to digitally rich and mobile. This new digital environment contains many resources to foster a universal designed learning experience. Aligned with the Core Content, Technology Standards and students' needs, variable content is required to facilitate a creative and innovative literacy to understand the core elements. Students must be engaged and responsible for their learning to make it meaningful to them.

Digital age skills are vital for preparing students to be successful in their higher education and to live and work in a technological society. Students must master the core concepts to succeed in their higher education and careers. No longer is it sufficient for students to have less access to technological tools than the teacher, nor is it enough for any one suite of software to serve as the zenith for learning mastery [36](https://www.naesp.org/sites/default/files/Blair_JF12.pdf). The four C's (creativity, critical thinking, collaboration, communication) are the core of the International Society For Technology in Education's National Education Technology Standards (NETS) [37](https://www.naesp.org/sites/default/files/Blair_JF12.pdf).



https://www.google.com/search?q=what+are+the+nets+4+cs&espv=2&biw=1280&bih=595&tbm=isch&tbo=u&source=univ&sa=X&ved=0ahUKEwjgz8vgqvPMAhWi5IMKHfjlCo0QsAQIGw&safe=active&ssui=on#imgrc=29LFNQVcvtCkaM%3A

Creating and devising lessons plans that includes digital content is now the practice of the teacher. Having a many apps, software and online subscriptions is more of a necessity than a privilege. Students need bidirectional activities to keep them engaged in their own individual learning. Simply being able to use technology is no longer enough. Today's student need to be able to use technology to analyze, learn and explore [38](http://eisdedtechs.weebly.com/elementary-ipad-immersion.html).

This plan addresses the needs to research and chose many different apps, software and web-based subscriptions to add to their classroom to engage students with creativity, research, communication, collaboration and critical problem solving skills. Using these activities will motivate the student to define his/her own learning style to become a success problem solver.

[36] https://www.naesp.org/sites/default/files/Blair_JF12.pdf
[37] https://www.naesp.org/sites/default/files/Blair_JF12.pdf
[38] http://eisdedtechs.weebly.com/elementary-ipad-immersion.html

Objective 1 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Objective 1: Connectivity Collaboration also for online management All subject areas for K-4th Grades Math LA, Science Social Studies Related Arts ✹Connectivity of learning through Online Management Programs and parent engagement (i.e Google Classroom) Moodle ✹Parents and students understand the value of a digital learning environment ✹Understand real world career connections digitally and face-to-face Person ✹Encourage practices that are inclusive of all type of students; race, gender, disabilities	Technology Coordinator Curriculum Coordinator Principal Superintendent	✹Aligning digital curriculum to the Common Core the need to provide thought provoking tools for Connectivity of learning through Online Management Programs and parent engagement (i.e Google Classroom) Moodle, Study Island, Brain Pop…etc ✹ Through the efforts of teams/grade levels and student involvement to research, evaluate and procure resources for the digital learning environment ✹Research and procure career specialist/community leaders to make real world connections to learning with our students ✹Provide Understanding of copyright laws	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Consultant Recommendation Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Professional Development Teacher Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Stronge Assessments, SGO's Parent surveys	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 2 Strategy To Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
APPS All subject areas for K-4th Grades Math LA Science Social Studies Related Arts ✹Digital learning and involvement with APPS that will promote a deeper personal learning experience ✹Encourage practices that are inclusive of all type of students; race, gender, disabilities	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Research and procure digital online sources by all teachers through teams/grade levels to acquire different models for student self-centered involvement practice and assessment ✹K-4 Teacher add digital lessons plans ✹Provide Understanding of copyright laws	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Stronge Assessments, SGO's Parent surveys Additions Software in Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 3 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Online Subscriptions for Learning Environments All subject areas for K-4th Grades Math LA Science Social Studies Related Arts ✸Digital online learning to augment classroom resources for class work and assessments. Such as Brainpop, Study Island, MAPS…. ✸Encourage practices that are inclusive of all type of students; race, gender, disabilities	Curriculum Coordinator Principal Superintendent Technology Coordinator	✸Research and procure digital online sources by all teachers through teams/grade levels to acquire different modes for students self- involvement practice and assessment Writing Essays Vocabulary PBS Animal Planet Quiz Site ✸Provide Understanding of copyright laws ✸K-4th grade teachers create digital lessons plans and begin the process to develop a digital environment	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation Vendor Recommendation	✸Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Stronge Assessments, SGO's Parent surveys Additions Software in Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 4 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
✹**E"-Books, Digital Books** All subject areas for K-4th Grades Math LA Science Social Studies Related Arts To add another flexible resource to the digital classroom rather than a hardbound book once the school becomes a 1:1 ratio of device to student ✹Encourage practices that are inclusive of all type of students; race, gender, disabilities	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Research and procure digitized textbooks by curriculum coordinator and staff that can be used anywhere anytime Journeys Math In Focus Discovery Education Learning Ally ✹Provide Understanding of copyright laws ✹K-4th grade teachers create lessons plans to include digital reading	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Stronge Assessments, SGO's Parent surveys Additions Software in Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 5 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Blended Learning All subject areas for K-4th Grades Math LA Science Social Studies Related Arts ✹ To create more lessons to include web based learning add to face-to-face instruction ✹To add another flexible resource to the digital classroom rather than a hardbound book once the school becomes a 1:1 ratio of device to student	Curriculum Coordinator Principal Superintendent Technology Coordinator	✹Teachers will view online learning modules, for problem solving skills ✹Teachers will be given the opportunity with outside districts working towards the same goals ✹Research blended learning lessons plans and add them to daily learning Research websites to add digital lessons to the learning environment ✹Encourage practices that are inclusive of all type of students; race, gender, disabilities ✹Provide Understanding of copyright laws	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July 2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Stronge Assessments, SGO's Parent surveys Additions Software in Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Objective 6 Strategy to Address	Responsible	Activity/Task	Timeline For Review of Policies, Contract or Upgrades Reflection & Adjustment	Resources	Evaluation Indicators	Budget Source
Object 6: **Virtual Reality – 3D and Blended Reality Learning** **VR blends the real world with the virtual** Science and Math K-4th Grade Students can make direct connections between real life/world concepts otherwise unavailable physically to them giving them a differentiated learning experience ✹A device for student-centered learning that gives a pseudo 3D real life experience for analyzing, measuring, annotating, modeling manipulation, creating, dissecting and constructing a desired outcome	Technology Coordinator Curriculum Coordinator Principal Superintendent	✹Research, explore and procure devices that offer virtual reality in the classroom that are relative to the school aged students Ex: construct, model, create, explore, dissect, develop a process To bring STEAM into the classroom ✹Research devices for student-centered learning that gives a pseudo 3D real life experience for analyzing, measuring, annotating, modeling manipulation, creating, dissecting and constructing a desired outcome ✹K-4th Grade Teachers create VR lessons	Meet, Modify, Manifest in October of each year to implement in July of the next year October 2016-July 2017 October 2017-July 2018 October 2018-July2019	Research by Curriculum Coor. Research by Technology Coor. Data Driven based on usage/surveys Teacher Recommendation Consultant Recommendation Vendor Recommendation	✹Successful implementation witnessed with: Teacher Observation Lesson Plans Student Assessments Stronge Assessments, SGO's Parent surveys Additions Software in Database	BOE Budget Shamong Foundation HSA ERATE Seek Grants Lease Options

Reflection Plan
2016-2019

It is with purpose to establish a digital learning environment in the Shamong School District. Based on evidence of surveys, lesson plans and student assessment that a reflection plan update will be performed every year. Early in the fall before budgets are proposed a meeting will be held. This plan will be called the Meet, Modify and Manifest meeting and will include administrators, teachers, students and consultants.

This meeting will discuss the annual outcomes of the classrooms while be involved with digital learning. There will be several guided questions and outcomes to modify the plan based on the four categories below:

1. Device effectiveness and efficiency
    a. age of devices
    b. are the devices used for the greatest accomplishments
2. Staff performance integrating technology
    a. did lessons plans increase with digital learning
    b. survey data based on the effectiveness and efficiency of the digital learning environment
    c. has teacher performance been measure with the SGO's or logging data
3. Student performance using technology
    a. is there adequate hardware for all students
        1. has/when the ratio of 1:1 reached
        2. data showing student assessments of proficiency or above proficiently reached
4. Financial Support
    a. look at Technology Readiness Plan and is it being supported by the BOE budget
    b. alternative financial sources need to be researched

Appendix A
Lesson Plans

Name: _____

GEOMETRIC CASTLE PROJECT

DUE DATE: <u>April 15, 2016</u>

You will be given the opportunity to work in small groups to create your very own castle using the 3D printer! This project will tie together everything learned from Chapter 8 and will require you to calculate the surface area and volume of several different geometric solids. Listed out below are all the requirements that will need to be met. You may use it as a check list when putting together your final product.

____ 1) Your group must have a minimum of 8 to a maximum of 12 individual geometric solids.

____ 2) Each solid can have a maximum height of 70 mm and length/width of 50 mm.

____ 3) There may be **no more than** 3 rectangular prisms and/or cubes.

____ 4) Label **each** solid with a small written number. You will complete all calculations on a separate piece of paper by numbering the work with their corresponding number. Calculations must include dimensions (in mm), formulas, and all work shown. Work may be typed or written **<u>neatly</u>** on a separate piece of lined paper. The following calculations must be completed:

- Surface area of each individual solid
- Volume of each individual solid
- Volume of entire castle
- Surface area of **<u>at least 2 pairs</u>** of composite solids

____ 5) Final presentation must appear as realistic as possible by incorporating 3 dimensional features (ex: trees, car, lamppost, etc.)

____ 6) Come up with a creative name for your castle that is math related.

____ 7) All group members should have just about the same number of responsibilities throughout the course of completing this project. Each group member must type and hand in 3-5 sentences to explain exactly what they contributed to the project. (It may be a good idea to split up responsibilities before starting the project!)

Grading Rubric:

Outcome	5	4	3	2	1
Overall Presentation	Students went above and beyond in their presentation by creating a castle that's a realistic replica. Castle name is math related.	Students had math related name and met requirements by incorporating additional 3D features **or** students went above and beyond but castle name is not math related.	Students met requirements by incorporating additional 3D features but did not include a castle name.	Students only included 1-2 additional 3D features and/or did not have a castle name.	Students did not include any additional 3D features and did not have a castle name.
Shape Requirements	Group included the maximum number of solids. Group incorporated all 6 kinds of solids and did not use more than 3 rectangular prisms and/or cubes.	Group included 9-11 solids. Group did not use more than 3 rectangular prisms and/or cubes.	Group included minimum of 8 solids. Groups did not use more than 3 rectangular prisms and/or cubes.	Group included minimum of 8 solids. Groups used more than 3 rectangular prisms and/or cubes.	Group did not meet the minimum number of solids. Group only used rectangular prisms and/or cubes.
Volume of Each Solid	Each solid includes formula, numbers plugged in & correct answer with correct unit.	1 solid does not include formula, numbers plugged in, or correct answer with correct unit.	2-3 solids do not include formula, numbers plugged in, or correct answer with correct unit.	4-5 solid does not include formula, numbers plugged in, or correct answer with correct unit.	6 or more solids do not include formula, numbers plugged in, or correct answer with correct unit OR no work shown.
Volume of Entire Castle	All work is shown and all parts are correct.	Only the unit in answer is missing.	Final answer is incorrect because of one missing solid or mistakes were made in individual volume calculations.	More than one solid is missing in work shown.	No work shown.
Surface Area of Each Solid	Each solid includes formula, numbers plugged in & correct answer with correct unit.	1 solid does not include formula, numbers plugged in, or correct answer with correct unit.	2-3 solids do not include formula, numbers plugged in, or correct answer with correct unit.	4-5 solid does not include formula, numbers plugged in, or correct answer with correct unit.	6 or more solids do not include formula, numbers plugged in, or correct answer with correct unit OR no work shown.
Surface Area Composite Figures	Students found surface area of more than 2 pairs of composite figures & showed all work including formulas, numbers plugged in, correct answer & correct unit.	Students found surface area of 2 pairs of composite figures & showed all work including formulas, numbers plugged in, correct answer & correct unit.	Students found surface area of 1 pair of composite figures & showed all work including formulas, numbers plugged in, correct answer & correct unit.	Students found surface area of pairs of composite figures, but at least 1 mistake was made in getting the final answer.	No work shown.
Due Date	Turned in April 15th	Turned in April 18th	Turned in April 19th	Turned in April 20th	Turned in April 21st

**** For every solid that is not labeled properly, 1% point will be deducted.***

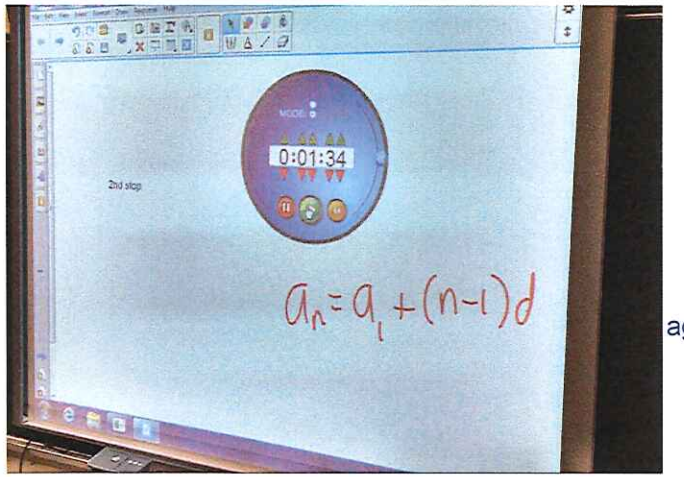
Technology Integration aligned with Mathematical Practices 2, 4, 5

Reason abstractly and quantitatively; model with mathematics; use appropriate tools strategically

1. Online textbooks - used daily to review homework (teachers' online text), provide guided and extra practice/videos, and start homework in class so students can leave text at home. The reverse is also true; some students leave text at school and use online text at home.
   http://connected.mcgraw-hill.com/connected/login.do
   http://my.hrw.com/ **Welcome to Holt McDougal Online!**

2. Smartboard - used daily for writing notes, many tools to enhance lessons (timer, coordinate plane for graphing, tables, colors to highlight important distinctions), and encourage student participation and sharing ideas since most enjoy writing on the board creatively. Extensive use of site http://exchange.smarttech.com/search.html?subject=Mathematics with planned lessons.

Linear Functions Review [SMART Notebook lesson] Graphing vertical lines, horizontal lines, lines with y-intercept of 0



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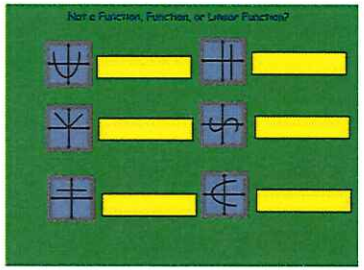
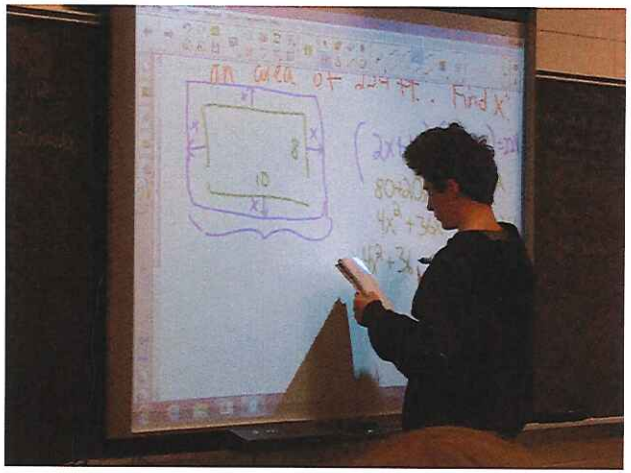
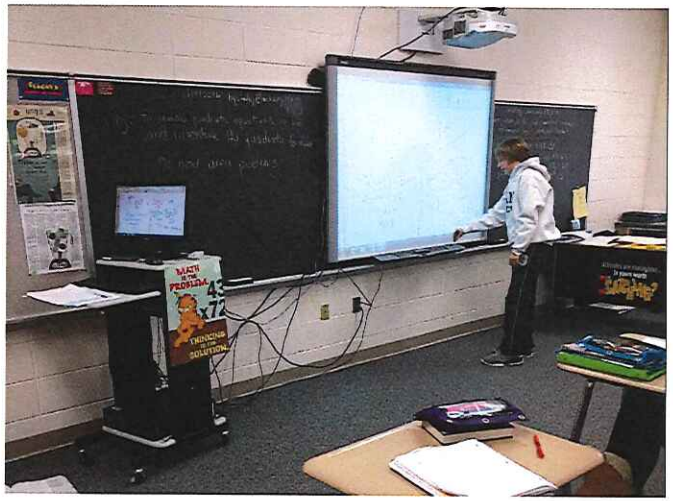






3. TI-nspire calculator: Algebra students use its scratchpad for calculations and graphing functions, but learn its features for solving equations, analyzing univariate and bivariate data, finding minimums, maximums, zeroes, intersections, slopes of functions, and doing downloaded activities from Mrs. Q or the computer through student software.

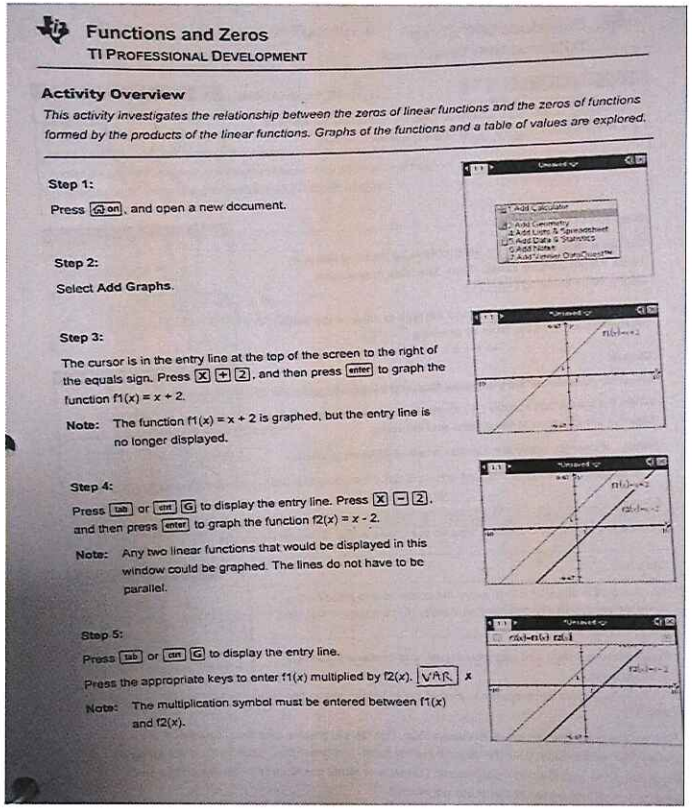
STEPS TO MODEL DATA WITH LINE OR CURVE OF BEST FIT

1. 1 - NEW DOCUMENT
2. 4 - LISTS AND SPREADSHEETS
3. LABEL EACH COLUMN AND ENTER DATA (BIVARIATE DATA, 2 COLUMNS)
4. HIGHLIGHT BOTH COLUMNS (SHIFT, ARROW)
5. MENU, 3 - DATA, 9 - QUICK GRAPH (YOU SHOULD GET A SCATTER PLOT)
6. MENU, 4 - ANALYZE, 6 - REGRESSION
7. IF A LINE, 1 - LINEAR (MX+B)
   IF A CURVE 4 - QUADRATIC OR 8 - EXPONENTIAL

note: can show both fitted curves; after quadratic, press menu, analyze, regression, exponential

8. CONTROL/TAB TO TABLE SIDE
9. MENU, 4 - STATISTICS, 1 - STAT CALCULATIONS
10. IF A LINE, 3 - LINEAR REGRESSION; FIND "r" VALUE FOR STRENGTH OF FIT
    r value close to 1 or -1 indicates a good fit of line to data (correlation coefficient)
    IF A CURVE, 6 - QUADRATIC; FIND R^2 FOR STRENGTH OF FIT OR
    A - EXPONENTIAL; FIND R^2 TO COMPARE
    R^2 value close to 1 indicates a good fit of curve to data (coefficient of determination)

Make sure your columns are both highlighted for step #10. If you do both quadratic and exponential at the same time, don't overwrite previous results; put them in column g or h.



Functions and Zeros
TI PROFESSIONAL DEVELOPMENT

Activity Overview

This activity investigates the relationship between the zeros of linear functions and the zeros of functions formed by the products of the linear functions. Graphs of the functions and a table of values are explored.

Step 1:

Press [on], and open a new document.

Step 2:

Select **Add Graphs**.

Step 3:

The cursor is in the entry line at the top of the screen to the right of the equals sign. Press [X] [+] [2], and then press [enter] to graph the function $f1(x) = x + 2$.

Note: The function $f1(x) = x + 2$ is graphed, but the entry line is no longer displayed.

Step 4:

Press [tab] or [ctrl] [G] to display the entry line. Press [X] [−] [2], and then press [enter] to graph the function $f2(x) = x - 2$.

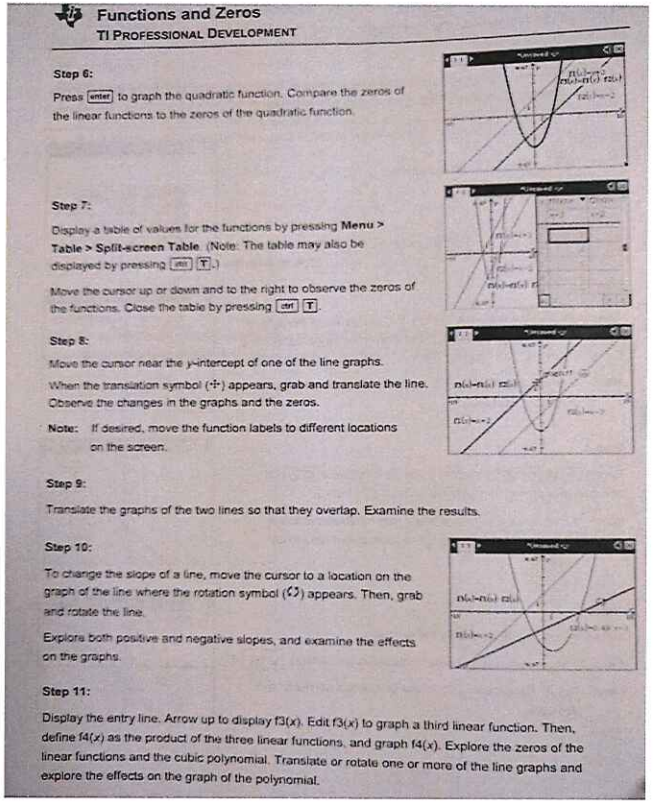
Note: Any two linear functions that would be displayed in this window could be graphed. The lines do not have to be parallel.

Step 5:

Press [tab] or [ctrl] [G] to display the entry line.

Press the appropriate keys to enter $f1(x)$ multiplied by $f2(x)$. [VAR] x

Note: The multiplication symbol must be entered between $f1(x)$ and $f2(x)$.



Functions and Zeros
TI PROFESSIONAL DEVELOPMENT

Step 6:

Press [enter] to graph the quadratic function. Compare the zeros of the linear functions to the zeros of the quadratic function.

Step 7:

Display a table of values for the functions by pressing **Menu > Table > Split-screen Table**. (Note: The table may also be displayed by pressing [ctrl] [T].)

Move the cursor up or down and to the right to observe the zeros of the functions. Close the table by pressing [ctrl] [T].

Step 8:

Move the cursor near the y-intercept of one of the line graphs.

When the translation symbol (✣) appears, grab and translate the line. Observe the changes in the graphs and the zeros.

Note: If desired, move the function labels to different locations on the screen.

Step 9:

Translate the graphs of the two lines so that they overlap. Examine the results.

Step 10:

To change the slope of a line, move the cursor to a location on the graph of the line where the rotation symbol (↻) appears. Then, grab and rotate the line.

Explore both positive and negative slopes, and examine the effects on the graphs.

Step 11:

Display the entry line. Arrow up to display $f3(x)$. Edit $f3(x)$ to graph a third linear function. Then, define $f4(x)$ as the product of the three linear functions, and graph $f4(x)$. Explore the zeros of the linear functions and the cubic polynomial. Translate or rotate one or more of the line graphs and explore the effects on the graph of the polynomial.

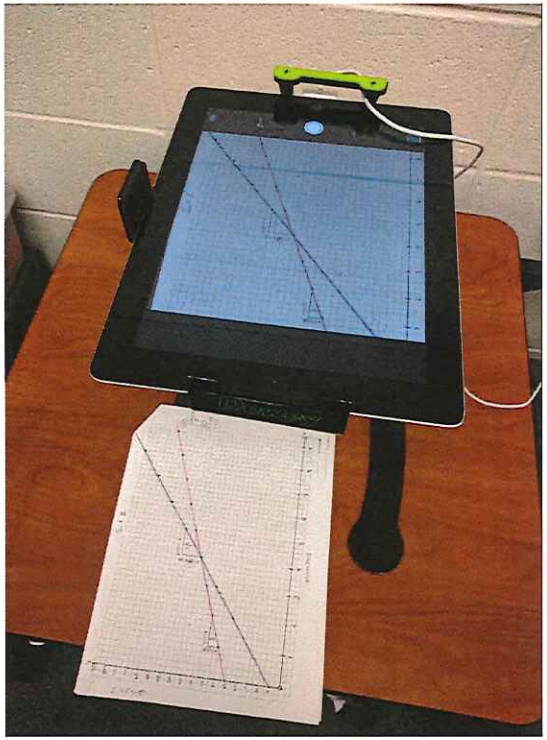
4. TI34 Multiview calculator; Used with on-level 8th grade to perform mathematical operations with rational and irrational numbers. Conversions from fraction to decimal to percent, exponentiation, and square/cube root functions are key (math joke there) concepts the calculator facilitates and/or confirms.

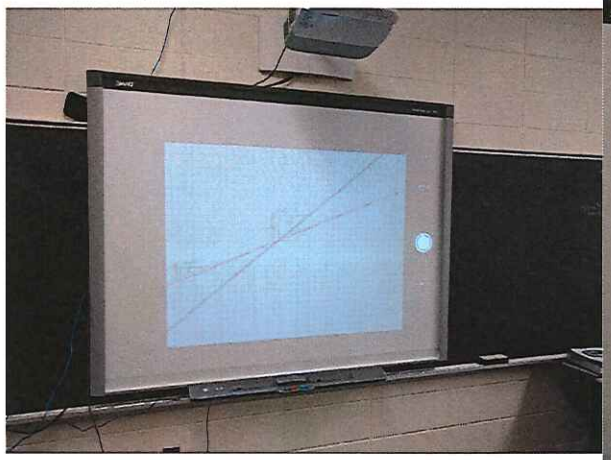
5. iPad : used with stand and camera to display student work via AppleTV from paper/pencil

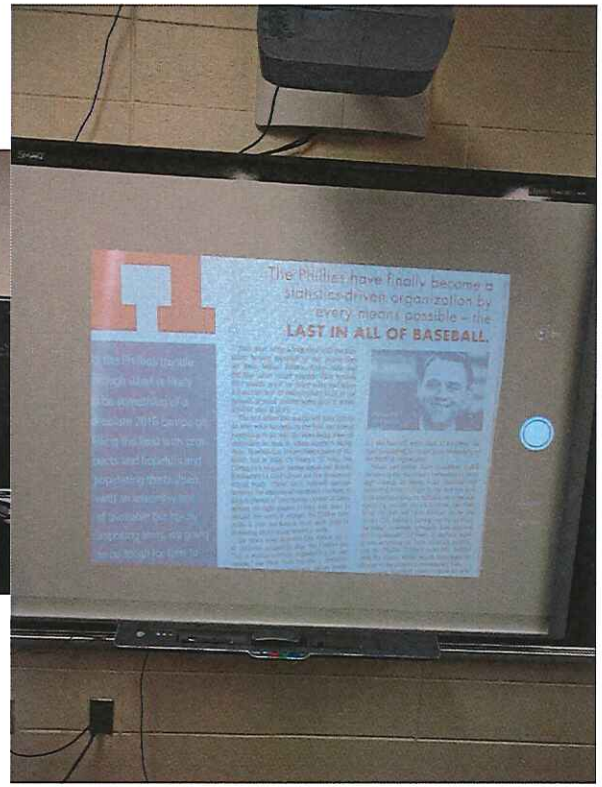
problem solving or activities; also current math-related articles displayed instead of multiple copies

having to be made; math apps with challenge problems that individual students solve on the iPad

Thank you Aubrey! Systems of Linear Equations project showing intersection as solution.





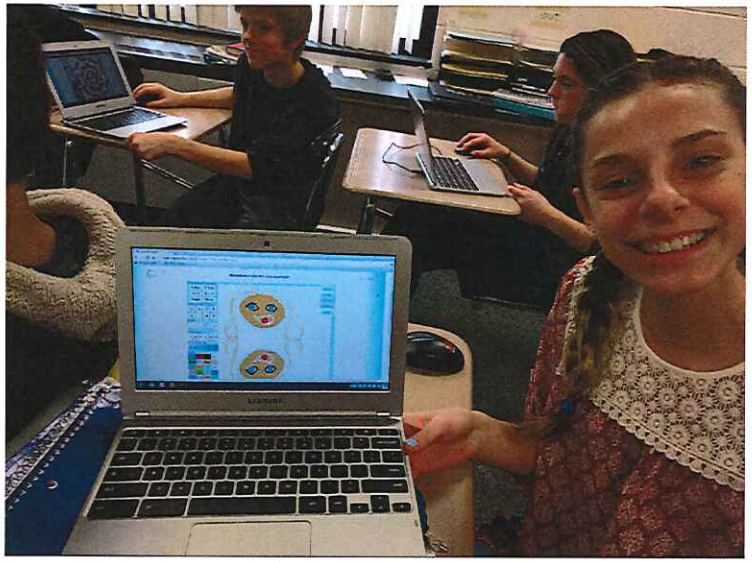


sports stats

iPad apps such as iTrade, the Street, and college guide for career and financial literacy units

6.Chromebooks: used to access internet practice sites where students work at their own pace; Instructional use of spreadsheets (google sheets), scatter plots, online games and quizzes, working on projects which require research, and presentations (google slides).

http://www.regentsprep.org/Regents/math/ALGEBRA/math-ALGEBRA.htm
http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm
http://financeintheclassroom.org/student/activities.shtml#teens
https://learnzillion.com/resources/75114-math
http://www.math-play.com/
https://www.purplemath.com/
https://www.ixl.com/math/grade-8
https://www.ixl.com/math/algebra-1
http://www.free-test-online.com/ccss/grade8/grade8_numbers.html
http://www.free-test-online.com/ccss/hs.html , https:/moodle.ims.k12.nj.us



Creating designs while studying geometric transformations; use of reflections and various lines of reflection to make unique patterns reinforcing the concept of isometries studied.

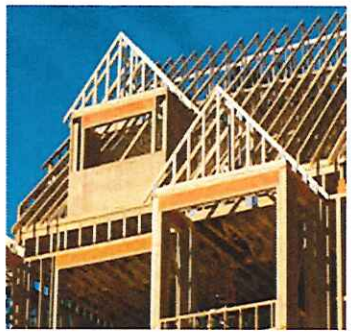
7. Computer/projector: used in conjunction with Smartboard to show relevant videos, project online

text solutions, play jeopardy/matching/quizziz type games, and access personal lesson plans via

shared Google docs on my Google drive.

https://www.youtube.com/watch?v=yAKUDnloQqo
https://www.youtube.com/watch?v=xuPl_8o_j7k
https://education.ti.com/en/timathnspired/us/middle-grades-math
http://www.math-play.com/Pythagorean-Theorem-Jeopardy/Pythagorean-Theorem
https://www.youtube.com/watch?v=ShSeQxtD-T0
https://www.khanacademy.org/math/cc-eighth-grade-math
http://www.virtualnerd.com/middle-math/all
And many, many more……

8. Cell phones: students are challenged to take pictures of math images in real life (parallel or perpendicular lines, parabolas, rates, angles, percent's, etc.) and send it to my email.




McDonald's

Social Studies Grade 7--**COL John F. Rudman , Grace Randolph** ---------WEEK 36 May 23- May 27 2016

BT#: 1. Knowledge, 2. Comprehension, 3. Application, 4. Analysis, 5. Synthesis, 6. Evaluation

CCCS→ 6.1: U.S. History: America in the World 6.2: World History/Global Studies 6.3: Active Citizenship in the 21st Century ***Tech 8.1 series:*** **COMPUTER AND INFORMATION**

TBS: Technology By Student //// TBT: Technology By Teacher //// DI: Differentiated Instruction

Class Breakout (estimated times and not necessarily in this order): A: 10 minutes B: 20 minutes C: 30 minutes

DAY	CONCEPT	OBJECTIVE	CCCS#	MATERIALS	EVALUATION/HW	
MON	A: Homeworkopoly for selected classes. US Constitution TBT/TBS/DI B: Pirate Reports as per schedule TBS/DI C: Early English Colonies ➢ Jamestown ➢ Plymouth TBT/TBS/DI	• Examine parts of the US Constitution, or • Reward deserving students. • Exploit technology to teach concepts and history. • Students provide first person oral presentation of historical figure. • Detail the life and contributions of a pirate/ privateer/ pirate hunter • Use Technology to stress points. • Examine Jamestown • Examine the story of Plymouth and the Mayflower. • Analyze the reasons for English Colonization.	6.1 6.2 6.3 Tech 8.1	Teacherweb.com, Batman cart, Chromebooks, StrataLogica, Smart Board, and teacher developed handouts. History Channel, Student notes and presentation aids, Power Points, Student gaming platforms. Videos on StrataLogica site. Teacher developed handouts, and StrataLogica. Student research data. Textbook, chap 17, DVDs on Jamestown. US Constitution.	Class work, participation, student work, observation, and teamwork. **HOMEWORK: Come up with 5 questions and answers that deal with the Jamestown and Plymouth colonies.** **WORK ON YOUR PIRATE ... TBS**	

TUE	A: StrataLogica: Brain Pop minutes, US Constitution. Stossel, IZZIT TBT/TBS/DI B: Pirate Reports as per schedule TBS/DI C: Review France's Monarchy and what is going on in Europe while exploration continues in North America. TBT • Page 197-99 in class.	• Examine parts of the US Constitution, or • Use Brain Pop to explore history, or • Exploit the Stossel series of DVD's, or • Use IZZIT to explore current events. • Students provide first person oral presentation of historical figure. • Detail the life and contributions of a pirate/ privateer/ pirate hunter • Exploit technology to teach concepts and history. • Use Technology to stress points. • Examine the situation in Europe during early colonization. • Examine the Treaty of Westphalia. • See how Louis's reign was defined.	6.1 6.2 6.3 Tech 8.1	Teacherweb.com, Batman cart, Chromebooks, StrataLogica, Smart Board, and teacher developed handouts. History Channel, Student notes and presentation aids, Power Points, Student gaming platforms. Videos on StrataLogica site. Teacher developed handouts, and StrataLogica. Student research data. Textbook, chap 17, DVDs on Jamestown. US Constitution.	Class work, participation, student work, observation, and teamwork. HOMEWORK: **Pages 200-202 passed out or see "I Forgot My Homework".** **WORK ON YOUR PIRATE ...** TBS	
WED	A: StrataLogica: Brain Pop minutes, US Constitution. Stossel, IZZIT TBT/TBS/DI B: Pirate Reports as per schedule TBS/DI C: Continue European Exploration: Concurrent English Civil War and English dominance along the coast To Georgia and taking New York from the Dutch. TBT **REMIND STUDENTS OF PIRATE REPORTS EVERY DAY!!!**	• Examine parts of the US Constitution, or • Use Brain Pop to explore history, or • Exploit the Stossel series of DVD's, or • Use IZZIT to explore current events. • Students provide first person oral presentation of historical figure. • Detail the life and contributions of a pirate/ privateer/ pirate hunter • Exploit technology to teach concepts and history. • Review the English Civil War • Examine the strategy of England's colonization.	6.1 6.2 6.3 Tech 8.1	Teacherweb.com, Batman cart, Chromebooks, StrataLogica, Smart Board, and teacher developed handouts. History Channel, Student notes and presentation aids, Power Points, Student gaming platforms. Videos on StrataLogica site. Teacher developed handouts, and StrataLogica. Student research data. Textbook, chap 17, DVDs on Jamestown. US Constitution.	Class work, participation, student work, observation, and teamwork. **HOMEWORK: Watch Flipped #16 and answer the questions provided.** **WORK ON YOUR PIRATE ...** TBS	

THU	A: Brain Pop minutes, US Constitution. Stossel in the Classroom, IZZIT, Videos of importance TBT/TBS/DI B: Selected Pirate Reports or Game Evaluations TBS/DI C: Hobbes and Locke and the Divine Right of Kings: TBT/TBS/DI	• Examine parts of the US Constitution, or • Use Brain Pop to explore history, or • Exploit the Stossel series of DVD's, or • Use IZZIT to explore current events. • Students provide first person oral presentation of historical figure. • Detail the life and contributions of a pirate/ privateer/ pirate hunter • Exploit technology to teach concepts and history. • Preparation for writing prompt: Who do agree with and why? Hobbes or Locke. • Understand the idea of the Divine Right of Kings.	6.1 6.2 6.3 Tech 8.1	Teacherweb.com, Batman cart, Chromebooks, StrataLogica, Smart Board, and teacher developed handouts. Computers, StrataLogica, History Channel, Textbook, Student notes and presentation aids, Power Points, Student gaming platforms. Videos on StrataLogica site. Teacher developed handouts, and StrataLogica. Student research data.	Class work, participation, student work, observation, and teamwork. **HOMEWORK: Watch Flipped #17 and reflect on it.** **WORK ON YOUR PIRATE ...** TBS	
FRI	A: StrataLogica: Brain Pop minutes, US Constitution. Stossel, IZZIT TBT/TBS/DI **B:** Pirate reports as per schedule TBS/DI **C:** Writing prompt: Argumentative essay: Who do you agree with Hobbes or Locke and why? TBT/TBS/DI	• Examine parts of the US Constitution, or • Use Brain Pop to explore history, or • Exploit the Stossel series of DVD's, or • Use IZZIT to explore current events. • Examine the life of a pirate and how he/she changed the region • Student designed presentations of a historical figure. • Writing prompt: Who do agree with and why? Hobbes or Locke.. • Use Technology to stress points	6.1 6.2 6.3 Tech 8.1	Teacherweb.com, Batman cart, Chromebooks, StrataLogica, Smart Board, and teacher developed handouts. Computers, StrataLogica, History Channel, Textbook, Student notes and presentation aids, Power Points, Student gaming platforms. Videos on StrataLogica site. Teacher developed handouts, and StrataLogica, Student research data. Teacher developed quiz.	Class work, participation, student work, observation, and teamwork. **HOMEWORK: Pirates as needed.** **Answer this question:** What famous North American landmark is constantly moving backward? **WORK ON YOUR PIRATE ...** TBS **THERE WILL BE A SPIFFY QUIZ NEXT WEDNESDAY OR THURSDAY.** `On Monday: Finish your prompt if not done in class: Google Docs.`	
LAB	Game Design Lab, RTI Lab TBS/DI ☐ Day 1, 3, and 4 Games for Learning ☐ Days 2, 5 (RTI Lab)	• Help struggling students succeed. • Improve Gaming skills • Use games to learn and improve comprehension. • Find new platforms for learning.	6.1 6.2 Tech 8.1	Lecture, videos, personal notes, personal library, student focus, Study Island.	Class work, participation, student work, observation, and teamwork.	

Vocabulary: **Inherit, reign, Inquisition, administration, divine right of kings, civil war, treason.**


StrataLogica
NYSTROM
The Learning is in the Layers
CONTENT CATALOG
TESTIMONIALS
TECH SPECS
COMMUNITY
LOGIN
What is StrataLogica?
Revolutionizing the Classroom
Nystrom Education maps, globes, atlases, and charts now come alive in an environment where teachers and students can actively engage with our multi-layered world, easily share content, and collaborate in ways never before imagined. Completely web-based and powered by Cesium and Bing, StrataLogica is designed for computers, projectors, and interactive whiteboards. StrataLogica supports most major browsers and operating systems.
Watch the Video
Try it FREE for 30 Days!
GET A FREE TRIAL
Download on the App Store
Pacific Ocean
Canada
North America
United States
Mexico

Lesson Title: Wixie
Kindergarten

Objective
SWBAT locate the Wixie icon on the Moodle page
SWBAT log on to Wixie with a specific user name and log on
SWBAT add a picture of an animal to a Wixie document
SWBAT add a text box to a Wixie document

Activities/Procedures
Students will log on to the computer and navigate to the Wixie icon on the class Moodle page. They will launch Wixie and use the teacher distributed cards to log in with a specific user name and password. Once all students have logged in, the teacher will demonstrate how to add a picture to a document. The students will locate a picture of a specific animal to their document. Then, the teacher will demonstrate how to add a text box to a document. Students will add their name by entering it into text boxes. The paper will be saved and printed to accompany their research project.

Materials
Moodle
Wixie
Teacher distributed log in cards

Assessments
Student participation, teacher observation,

Modifications/Differentiation
individual assistance as needed, peer helpers where appropriate

Standards
8.1.4.A.6 Create and present a multimedia presentation using appropriate software.
8.1.4.A.9 Use basic computer icons.

Lesson Title: Sprout – Wixie
First Grade

Objective
SWBAT scan an object using the HP Sprout
SWBAT import an image from Shared Students into a new Wixie document
SWBAT add text to a Wixie document

Activities/Procedures
Students will log in to their Wixie accounts. They will create a new project and name it "My Special item". They were to have brought in a special object, smaller than their hand, that they will scan into the computer using the HP Sprout. While they are waiting for their turn to scan, they will add a text box to their Wixie page and write three sentences about their object, starting with, "This is my _____". "I got it from _____." "It is special because _____.". Once everyone has scanned their objects, and the scanned files have been moved to Students Share by the teacher, the students will follow the teacher's example to retreive their images and place them on their documents. Completed documents will be printed and displayed.

Materials
HP Sprout, Wixie

buy Sprout by HP

Assessments
Completed documents

Modifications/Differentiation
individual assistance as needed. Peer helpers where appropriate.

Standards
8.1.4.A.1 Use basic technology vocabulary.
8.1.4.A.3 Input and access text and data, using appropriate keyboarding techniques or other input devices.

Lesson Title: Coding for Sphero using Blockly Chrome App
Second Grade

Objective
SWBAT write a simple code to move Sphero forward and backward

Activities/Procedures
Students will log on to Google Classroom and access Blockly - Sphero. They will use the basic movement blocks to move Sphero forward and backward. Then, they will use the code blocks to make Sphero change colors. Students will take turns using the chrome book and connecting it through bluetooth.

Materials
Page 1 of 3
Sphero
Chromebook
Blockly app

Assessments
Student Participation, Teacher observation

Modifications/Differentiation
Individual assistance as needed. Peer helpers where appropriate

Standards
8.1.4.A.1 Use basic technology vocabulary.
8.1.4.A.2 Use basic features of an operating system (e.g., accessing programs, identifying and selecting a printer, finding help).
8.1.4.B.9 Solve problems individually and/or collaboratively using computer applications

Lesson Title: Google Slides - Transitions and backgrounds
Third Grade

Objective
SWBAT add animations to objects on a slide
SWBAT add transitions between slides in a slide show
SWBAT format the background of a slide

Activities/Procedures
Students will go to Google Classroom and locate the assignment Google Slides. They will reopen their created Slide Show. After having completed all four season slides, students will watch the next sequential video that show how to format the background of a slide. They will apply a formatted background, either a color or a watermarked picture. Then, they will watch the remaining video on how to apply transitions between slides. They will add those effects to complete their slide shows.

Materials
Moodle, Typing Club, Google Classroom, Google Slides

Assessments
student participation, teacher observation, successful completion of a Google Slides.

Modifications/Differentiation
Individual assistance as needed, peer helpers where appropriate,

Standards
8.1.4.A.3 Input and access text and data, using appropriate keyboarding techniques or other input devices.
8.1.4.A.6 Create and present a multimedia presentation using appropriate software.

Lesson Title: Meet Takoda Windows Movie Maker adding narration
Fourth Grade

Objective
Repeat from previous week. Did not get to the narrations as students were completing Titles and subtitles
SWBAT add and edit title pages on a Movie Maker Project
SWBAT add effects to the title pages of a Movie Maker Project
SWBAT open a saved movie maker file from a network location
SWBAT use a microphone and record a narration
SWBAT save a locate voice recorded files from a network file

Activities/Procedures
Students will navigate to the Students Share folder and locate their saved Meet Takoda Movie Maker projects. They will add two title frames to the beginning of their movie for the opening Title Pages The first page will have "Meet Takoda" and the second page will have their names. Students will learn how to format the text of each text box and how to add effects to the title pages. Then, students will use a microphone and record a 7 second narration for their individual slides. They will save the narration files into the appropriate folder within Students Share. After all students have recorded their narrations, students will add those files to their individual movie projects. All changes will be saved.

Materials
Meet Takoda downloaded slides, Windows Movie Maker, Shared "Recording" file in Students Share network drive. microphones

Assessments
Student participation, successful progress on Windows Media Maker file

Modifications/Differentiation
Students are given the choice of which category of information they would like to work. They are also able to select the

platform for which they will be presenting their information.

Standards
8.1.4.A.6 Create and present a multimedia presentation using appropriate software.

8.1.4.A.7 Create and maintain files and folders.
8.1.4.A.8 Use a graphic organizer.
8.1.4.B.6 Identify and use web browsers, search engines, and directories to obtain information to solve real world problems.
8.1.4.B.7 Locate specific information by searching a database.

Appendix B
Surveys

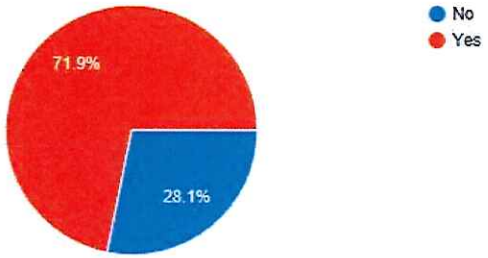
QUESTIONS RESPONSES 32

32 responses

SUMMARY INDIVIDUAL

Accepting responses

Do you currently incorporate STEM activities into your classroom? (32 responses)



What STEM activity or activities have you done this year? (23 responses)

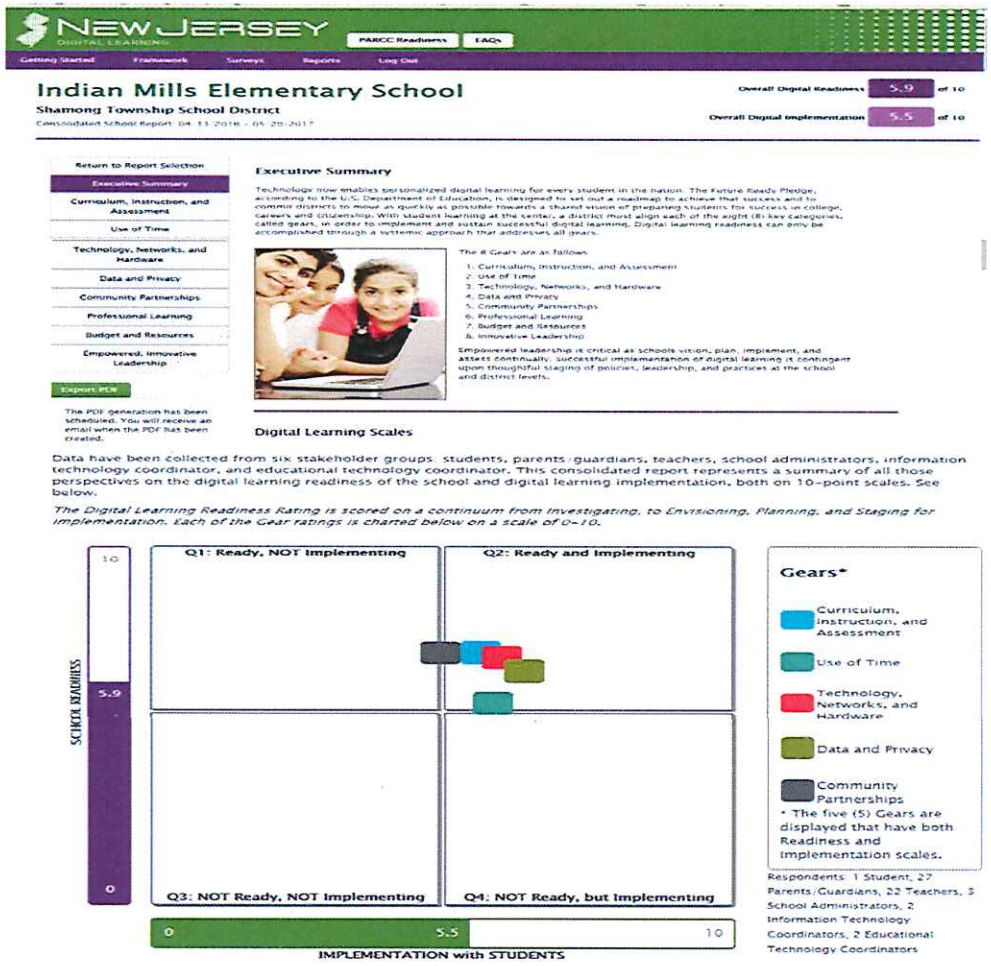
Do you currently incorporate STEM activities into your classroom?	What STEM activity or activities have you done this year?	What grade or grades did you work with on this project(s)?	Which best describes your position?

Yes	6th grade accelerated/7th grade on level	6th Grade;7th Grade	Math Teacher
Yes	collaborative 3D Castle project Engineering is Elementary - Improving a Playdough Process	1st Grade	Regular Education Classroom Teacher Elementary
Yes	Bridge Building	3rd Grade	Regular Education Classroom Teacher Elementary
Yes	building bridges, posing questions about worms and observing outcomes based on questions	3rd Grade	Regular Education Classroom Teacher Elementary
Yes	3D Printing, Unit Rates w/ Car Speed, Direct Proportion Activities	5th Grade;6th Grade;7th Grade;8th Grade	Math Teacher
Yes	Paper airplane experiment (calculating distance) when reading about Amelia Earhart in Language Arts	6th Grade	Special Education Classroom Teacher Middle
Yes	I have done too many to mention here. I do many "lessons" besides the units... Some include Units on: Rockets and Rovers; Bubbleology; What's Up in The Atmosphere; ; Every Drop Matters; Biomedical Engineering; LittleBits; lego robotics; Lego Mindstorms and more..	2nd Grade;3rd Grade;4th Grade	IMAGE
Yes	building with various objects	Kindergarten;1st Grade;2nd Grade;3rd Grade;4th Grade	Related Arts Teacher Elementary

Yes	We used a wind tube to "catch the wind" to help us understand that gas is all around us; For the 100th day of school, we tried to build the tallest structure we could using 100 plastic cups	2nd Grade	Regular Education Classroom Teacher Elementary
No			Math Teacher
Yes	Engineering is Elementary modules with first grade STEM Buddies, also additional	1st Grade;4th Grade	activities as available Regular Education Classroom Teacher Elementary
Yes	Magic Squares, group problem-solving	5th Grade;6th Grade;7th Grade;8th Grade	Related Arts Teacher Middle
Yes	various-science and math	4th Grade	Regular Education Classroom Teacher Elementary
Yes	Creating Instruments	5th Grade	Science Teacher
Yes	designing and following another groups plan of an alarm circuit, taking a survey and graphing results for playdough color, improving a playdough process,	1st Grade;4th Grade	Regular Education Classroom Teacher Elementary
Yes	made playdough	1st Grade;4th Grade	Regular Education Classroom Teacher Elementary
Yes	last year I did the marshmallow challenge and this year we made a paper clock	1st Grade	Regular Education Classroom Teacher Elementary
Yes	Mapping, Artisitc expression and design, game design using online tools	7th Grade	Social Studies Teacher
Yes	Students built boats out of tin foil, tested them, and made necessary changes; wind experiments	Kindergarten	Special Education Classroom Teacher Elementary
Yes	Designing a bridge with toothpicks and gumdrops	3rd Grade	Special Education Classroom Teacher Elementary

Yes	bridge made out of toothpicks and gumdrops to coincide with Journeys	3rd Grade	Special Education Classroom Teacher Elementary
Yes	coding, CAD/3D design,	1st Grade;2nd Grade;3rd Grade;4th Grade	Related Arts Teacher Elementary
Yes	Sound unit - creating musical instruments; Music Tech unit - sequencing songs, adjusting volume level; rhythm unit - worked with fraction bars to understand rhythmic value of notes	5th Grade;6th Grade;8th	Related Arts Teacher Middle Grade
Yes	Experimenting and recording data from centers....balancing scale (drawing and writing about what you did, making predictions) ; creating cubes with straws and playdough; sink and float pumpkins	Kindergarten	Regular Education Classroom Teacher Elementary

Indian Mills Elementary School
New Jersey Digital Learning Survey
May 2016

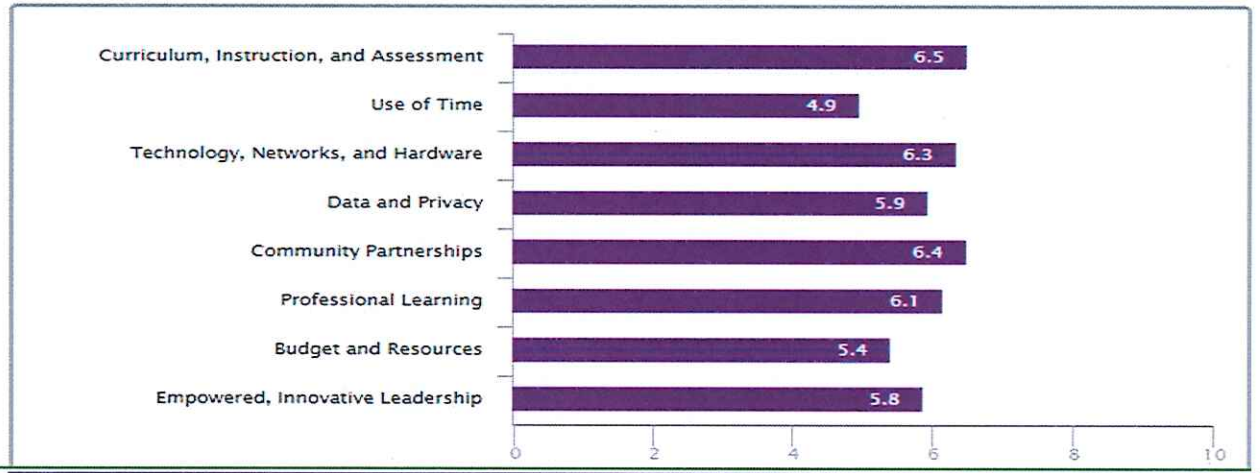


This figure charts the Digital Learning Implementation rating vs. the Digital Learning Readiness rating for each of the first five gears. The quadrants in which this school's ratings are charted are indicators of the school's progress to date in the respective Gears. The quadrant to aspire to is Q2 (Ready and Implementing). The quadrant to avoid is Q4 (Not Ready, yet Implementing).

This figure charts the Digital Learning Implementation rating vs. the Digital Learning Readiness rating for each of the first five gears. The quadrants in which this school's ratings are charted are indicators of the school's progress to date in the respective Gears. The quadrant to aspire to is Q2 (Ready and Implementing). The quadrant to avoid is Q4 (Not Ready, yet Implementing).

Digital Learning Readiness Rating

Figure: Digital Learning Readiness: Indian Mills Elementary School (04/13/2016 – 05/20/2017)



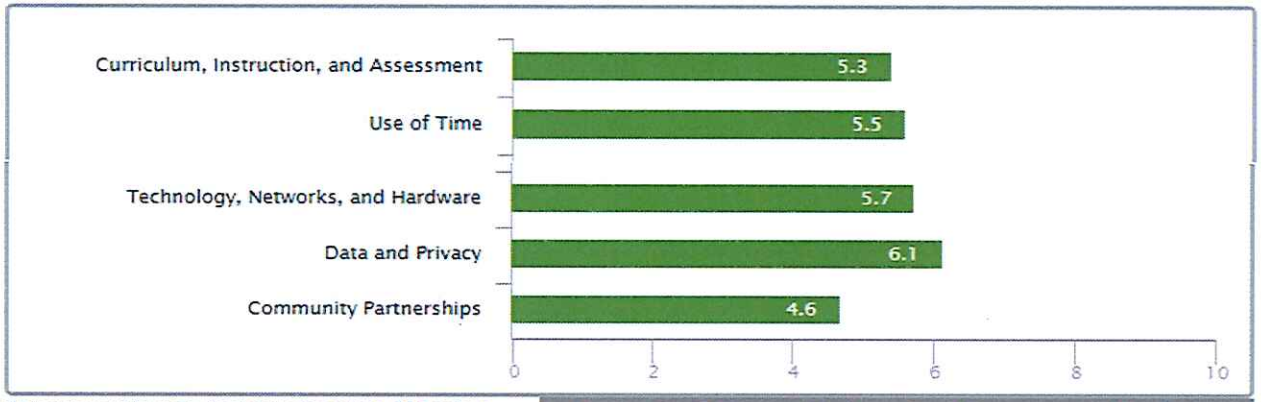
Respondents: 1 Student, 27 Parents/Guardians, 22 Teachers, 3 School Administrators, 2 Information Technology Coordinators, 2 Educational Technology Coordinators

Investigating	Envisioning	Planning	Staging
0–3	4–5	6–7	8–10

A school's implementation rating represents the extent to which digital learning is implemented with students. The Digital Learning Implementation Rating is scored on a scale of 1-10 on a continuum from no/low implementation, to moderate, and then high implementation. Only 5 of the 8 gears are used to calculate the implementation score, since the other three gears do not directly impact students.

Digital Learning Implementation Rating

Figure: Digital Learning Implementation: Indian Mills Elementary School (04/13/2016 - 05/20/2017)



Respondents: 1 Student, 27 Parents/Guardians, 22 Teachers, 3 School Administrators, 2 Information Technology Coordinators, 2 Educational Technology Coordinators

No/Low level of implementation	Moderate level of implementation	High level of implementation
0–3	4–7	8–10

Appendix C
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