

# Great Lakes Academy 2012-2015 Technology Plan



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***“Building Excellence in Every Child”***

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## MISSION STATEMENT

At Great Lakes Academy we are dedicated to educating children in a safe and nurturing environment because we believe that this is imperative for teaching students the academic and character skills necessary to be lifelong learners in a competitive world.

## PLAN COORDINATION

Director: Michelle Parham, Principal  
Faculty: Elizabeth Lalone, Teacher  
Cyber Solutions: James Perry  
Business Manager: Gwen Shields  
Parent: Rashaun Washington

Address: 46312 Woodward Ave.  
Pontiac, Michigan 48342  
Phone: 248-334-3534  
Fax: 248-334-6457  
District Code: 63907  
Intermediate School District: Oakland Schools  
Contact: Michelle Parham, Principal  
Email: [parhamm@greatlakesacademy.org](mailto:parhamm@greatlakesacademy.org)

Current enrollment: 247  
Grades: K – 8

Plan Start Date: July 1, 2012  
Plan End Date: June 30, 2015

Website: [www.greatlakesacademy.org](http://www.greatlakesacademy.org)

## DEMOGRAPHICS

The school enrolls a predominantly at risk population of students from an urban setting.

Free/Reduced Lunch:	100%
Special Ed:	12%
Female:	50%
Male:	50%
Homeless	19%
Black or African American	90%
Caucasian	4%
Other	6%



## INTRODUCTION

Great Lakes Academy is an urban school chartered by Eastern Michigan University in June 1997 and serves students in grades K-8.

The school's programming is built around the shared vision of educating children in a safe and nurturing environment and Great Lakes Academy's mission to teach students the academic and character skills necessary to be lifelong learners in a competitive world.

Great Lakes Academy is committed to "Closing the Opportunity Gap" by providing coherence to its learning practices and programs, offering small class sizes, dedicated and highly-qualified staff, integrated curriculum enriched by technology, enrichment opportunities that foster self-reliance, teamwork and creativity, and personalized strategies for achieving high expectations.

Our top priority is to provide the best possible education for our students and to that end we are committed to ensuring that instructional strategies and learning environments integrate appropriate technologies to maximize learning and teaching.

We understand the social, legal, and ethical issues related to technology and are committed to promoting responsible use of technology. We address these matters in our Acceptable Use Agreement (*Appendix A*), which are reviewed with student, parents and staff.

The following have been used as guides in the development of this technology plan :

- **National Educational Goals established in December of 2000 by the United States Department of Education:**
  - All students and teachers will have access to technology in their classrooms, schools, communities and homes.
  - All teachers will use technology effectively to help students achieve high academic standards.
  - All students will have technology and information literacy skills.
  - Research and evaluation will improve the next generation of technology applications for teaching and learning.
  - Digital content and networked applications will transform teaching and learning.
- **No Child Left Behind (NCLB) legislation, as stipulated by Title II, Part D, that all students are to be technologically literate by the end of 8<sup>th</sup> grade and technology is to help students increase student achievement.**

- **The 2006-10 State of Michigan Educational Technology Plan that supports the objective of every Michigan student becoming proficient in technology and demonstrating the ethical use of technology as a digital citizen and lifelong learner.**

## **TECHNOLOGY VISION**

Great Lakes Academy's vision is to utilize technology as an instrument for academic and personal development, by providing our students with the means to empower themselves to have control over their learning, and by offering opportunities to access, exchange, and analyze information, and develop critical thinking and problem solving skills. In addition, the use of technology will be applied directly to the administrative and staff portions of our School—which will provide the staff and parents with a constantly growing and dynamic framework for communication and learning. The technology system will provide school-wide communication, enhanced curriculum support, and shared resources.

Utilizing the resources and tools of technology, Great Lakes Academy can envision an environment where its students, parents, teachers and stakeholders will work together as partners in the learning process towards success in the educational sphere and within the broader range of society.

## **TECHNOLOGY MISSION STATEMENT**

The mission of Great Lakes Academy in cooperation with the community is to educate all children in a caring environment, which promotes knowledge for students to become productive and responsible citizens in the 21<sup>st</sup> Century.

## **TECHNOLOGY GOALS (2013 -15)**

- #1 To adopt the Michigan Educational Technology Standards (METS) and to integrate technology into the classroom learning experience.**
- #2 To provide staff development opportunities that ensures the use of technology in accessing data to be used in driving differentiated learning strategies.**
- #3 To provide communication with parents and stakeholders through the use of technology.**
- #4 To provide technology resources and support that is required to implement the Technology Plan.**

## **GOAL ONE**

**To adopt the Michigan Educational Technology Standards (METS) and to integrate technology into the classroom learning experience.**

### **INSTRUCTIONAL STRATEGIES**

The Great Lakes Academy's curriculum addresses the core content areas (Math, Social Studies, Science and Language Arts / Reading), Foreign Language, Art, Community Service, and extra curricula activities that enhance a commitment to student learning. Staff representing all grades have reviewed and aligned core curriculum outcomes in English/Language Arts, mathematics, science, and social studies with instructional materials. This alignment supports outcomes assessed by MEAP reading, writing, mathematics, science, and social studies and by NWEA and the Iowa Test of Basic Skills (ITBS) in reading, mathematics, and science. The alignment will be used to direct instructional strategies and the assessment used in instruction.

Our curriculum stresses reading, writing, mathematics, science, and social studies as skills possessed by literate individuals and productive workers and citizens. Students are equipped with interpersonal, problem solving, and technical skills that enable them to be self-directed lifelong learners, involved citizens, responsible family members and knowledgeable consumers.

### **STUDENT ACHIEVEMENT AND TECHNOLOGY**

The advantages of integrating applications of technology in teaching strategies and learning activities empower teachers to provide students with learning experiences that would be impossible or difficult to achieve without technology resources. We will use technology tools to broaden the teacher's role of deliverer of instruction to include the management and facilitation of instruction. To expand the walls of learning and teaching, the use of distance learning networks are required. These networks will allow us to provide higher quality services to all students.

Effective instructional strategies and learning activities are employed to help students understand and apply technology. We will break down traditional curriculum boundaries so that the curriculum becomes seamless. Information technology resources are employed to expand and strengthen the system of assessing student learning. These resources include computer-based instruction; computer based testing and office automation software. These assessment tools are employed to evaluate student mastery of the essential knowledge and skills needed to achieve success in a technologically global society.

## **TECHNOLOGY DELIVERY AND INTEGRATION**

Education at The Great Lakes Academy is a shared, life-long experience in which the diverse needs of all individuals are met. This experience, provided in a safe, supportive environment, will ensure success in a changing world.

To accomplish our vision for increased student learning with the use of technology, Great Lakes Academy will:

- Assure that all students and staff are provided with and have equal access to minimum standards of hardware and software.
- Implement grade level technology and goals to insure equity of delivery to all students.
- Expand and enhance voice communications to provide parents/community access to school information, to school staff and the capability to leave messages 24 hours a day.
- Enhance leased broadband network to enable 24-7 access to school learning resources, classroom lessons and assignments, school information and electronic messages for students, parents, staff and community members.
- Provide the learning community with greater community interaction collaboration and information exchange.
- Promote equitable access to learning technology as a community investment and encourage an active partnership among schools, businesses and the community.

## **EVALUATION**

As a result of the integration of technology into all classrooms, students will continue showing an improvement in reading/ELA, math, science and social studies.

The following will be used to make formative assessments:

- MEAP and ITBS, NWEA test results for 3rd thru 8<sup>th</sup> grades
- NWEA and ITBS test results for grades K-3
- Pre/post testing whiled the student works on the computer or online
- Teacher classroom observation
- METS K-8 Technology & Standards Checklist by Grade Levels (*Appendix B-D*)



## GOAL TWO

**To provide staff development opportunities that ensures the use of technology in accessing data to be used in driving differentiated learning strategies.**

### STAFF DEVELOPMENT

In order for integration of technology into all classrooms to be successful, we must ensure that the teachers are comfortable and literate in regard to the technology. To that end, Great Lakes Academy is committed to:

- Providing the minimum standards of hardware and software in every classroom.
- A staff development and support program that emphasizes basic operation and usage needs, which will be developed from surveys based on Technology Standards for Teachers developed by the International Society for Technology in Education (ISTE). (*Appendix E*)
- Staff development opportunities focused on methods for integrating technology into the learning experience (i.e. conducting research, analyzing and synthesizing data, etc.) and that focus on data-driven decision making.
- Providing core subject technology strategies to be utilized for instruction. (*Appendix F*)

The chart that follows shows those activities and timeline that we believe to be essential to a continuous and successful professional development program that will ensure the use of the technology in all classrooms.

<b>Program Activities</b>	<b>2012-13</b>	<b>2013-14</b>	<b>2014-15</b>
1. Assess/identify staff development needs.	Aug., Sept., Jan.	Aug., Sept., Jan.	Aug., Sept., Jan.
2. Plan time for staff development.	Aug., Sept., Jan.	Aug., Sept., Jan.	Aug., Sept., Jan.
3. Stress integration of technology to enhance teaching and learning.	Ongoing	Ongoing	Ongoing
4. Use technology for professional development.	Ongoing	Ongoing	Ongoing
5. Work cooperatively to achieve goals.	Ongoing	Ongoing	Ongoing
6. Provide staff training.	Ongoing	Ongoing	Ongoing

7. Provide adequate budget for professional development.	Ongoing	Ongoing	Ongoing
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**EVALUATION**

The following will be used to make formative assessments:

- Utilization of web-based self-assessment tool to establish baseline and measure progress
- Interviews/random samples
- Tracking # courses, enrollment, use of systems (i.e. ITV log, software counters)
- Conduct a quarterly needs survey of staff to identify, plan and coordinate training opportunities
- Track technology use in professional development sessions; staff meetings and mentoring sessions with participation evidenced through the use of sign-in sheets and appropriate logs

## **GOAL THREE**

**To provide communication with parents and stakeholders through the use of technology.**

### **PARENTAL & STAKEHOLDER INVOLVEMENT**

At Great Lakes Academy we believe that parents have a positive contribution to make to their student and the school. In fact, research shows that children do better in school when parents are more involved with the teachers and the school.

In an effort to help improve student achievement, Great Lakes Academy currently uses a number of ways to facilitate parent and staff communications (i.e. parent-teacher conferences, phone calls, parent meetings, newsletters, etc.). With today's busy schedules, rather than relying on these methods only, Great Lakes Academy proposes to enhance this communication through the use of technology.

To that end, we will utilize a share point application (i.e. Edline, Microsoft Gateway) to build and deploy a web-based learning environment that connects parents and staff. This interface will allow students and parents the opportunity to participate directly in the learning by process by enabling their ability to:

1. View real-time progress reporting.
2. Collaborate online with staff based on their student's performance data.
3. Easily share and communicate key data with their student.
4. Provide a process of continuous improvement for students and parents

Currently, the Principal conducts monthly parent meetings and distributes a monthly school newsletter. Additionally, the Principal provides a monthly written and verbal Board report that includes a review of academic and student support projects. This latter report includes a list of all community/business/industry representatives who have participated with the school for lunches with students, assembly presentations, site visits, or classroom speakers/resources. Utilization of a framework application will enhance communication with various stakeholders by allowing:

1. Users to subscribe to the alerts of their choosing.
2. Administrators can automatically push notifications to specific users or groups.
3. Individuals and teams can find and collaborate on relevant, organization-wide information.
4. Enable students and staff to personalize content and layout within controlled boundaries.
5. Staff to create their own Web pages, and customize personal and public views of information, documents, and applications.

## EVALUATION

The following will be used to make formative assessments:

- Feedback Surveys from Students, Parents, and Staff
- Online application counter reports to establish usage

## GOAL FOUR

**To provide technology resources and support that are required to implement the Technology Plan.**

### TECHNOLOGY SITUATION (CURRENT)

Great Lakes Academy (GLA) is a one building, Ethernet network (LAN) consisting of 16 classrooms, each with 4 desktop PCs with access to 3 Networked Copier/Printers. There is also a state of the art computer lab of 25 PCs as well as 40 wireless laptops on carts used between the Media Center and classrooms. The administrative staff is connected to the LAN, consisting of a counselor's office, and main office with computers and printers. The LAN is powered by 2 Windows 2008 R2 Servers, Cisco switches, Sonicwall Firewall, and connection to the Internet via Comcast. GLA contracts with a Managed Service Provider to monitor and manage IT service.

Computers: Desktop PCs – 102, Laptops - 44

Printers –3 E-studio copiers that are networked to serve as printers/scanners/copiers.

File Servers – 2 Servers running Microsoft 2008 R2 and Microsoft Exchange Server 2008. Vipre Antivirus, GFI Mail Essentials Spam Filtering

Software – Edline, Administrator's Plus, Microsoft Exchange, Microsoft Office, Web-based: Harcourt, Glory Math, Study Island, Learning A-Z, Reading Eggs Program, Brainpop, etc.

(2) Digital Cameras, (1) Video Camera

Instructional computers	88
Administrative computers	9
Computers for teacher	22
Servers	2

Hubs	16
Switches	6
Routers	1
Wireless Access Points	12
Networked rooms (Ethernet 10/100 mbs)	16 academic classrooms (all)
TV/DVD Combos	17
Multimedia Carts	17
Internet access	Cable/32 mbits
Software	
Windows XP/ Windows 7	
Windows Server 2008 R2	
Exchange 2010 email software	
Vipre Antivirus	
Open DNS Web filtering	
GFI Mail Essentials Spam Filter	
Student Information System	Administrator's Plus
Phone system & Voicemail	Norstar
Electrical capacity	Needs Upgrading

## **TECHNOLOGY OBJECTIVES (2012-2015)**

To support the technology plan goals Great Lakes Academy has established the following objectives:

- #1 Upgrade Building Electrical Capacity
- #2 Expand and maintain voice, video and data infrastructure
- #3 Upgrade/replace hardware and applications, as appropriate
- #4 Design assessment tools to evaluate the future technology needs of the school
- #5 Insure technical considerations are made for all future construction and renovation plans

We will work with our technical support group on an ongoing basis to develop strategies and an implementation timeline that takes into consideration school improvement plan recommendations and budgetary constraints.

## **EVALUATION**

The following will be used to make formative assessments:

1. Checklist of expansion activities taken to be reviewed in conjunction with the timeline and School Improvement Plan
2. Student / Parent / Staff / Stakeholder Surveys
3. Review of technology expenditures

## **PLAN ADMINISTRATION AND BUDGETING**

In support of the budget and funding schedule of the technology plan, Great Lakes Academy is committed to pursuing funding support that will consist of the following:

1. Community & Business partnerships
2. Private, state, and federal technology grants
3. Universal Service Fund discounts
4. School fundraising
5. Operations and fund equity

All resources will be coordinated as available to support the implementation of this plan.

For a preliminary technology budget that covers the period of 2013 -15 see *Appendix G*.

# APPENDIX

## Appendix A – Acceptable Use Agreement



### Great Lakes Academy Acceptable Use Agreement

Great Lakes Academy provides a technology enriched educational environment. We believe that technology should be an integral part of each student's education experience. For the school year, each student will be issued a computer user account enabling students to access the schools computers and network. This account will also connect students to resources on the Internet.

The following Policies and Regulations describe the school's official position regarding technology and the Internet. Students and parents/guardians of students are required to read and sign the Great Lakes Academy Acceptable Use Agreement. The "signature sheet" will be kept on file for the school year.

The monitoring procedures and AUP are reviewed with parent/guardian and are required to read and sign.

**Acceptable Use and Etiquette:** The use of Technology at Great Lakes Academy is a privilege extended to students, faculty and staff to enhance learning and exchange information. School computers must be for educational and research purposes or for use (such as e-mail) approved by school staff. Network users are expected to abide by the generally accepted rules of network etiquette. These include, but are not limited to, the following:

1. Do not use obscene or defamatory language.
2. Do not use the network to harass, insult, or attack others.
3. The network may not be used to access or transmit offensive messages or pictures.
4. Do not give out your name, address, phone number or those of other students or colleagues.
5. Do not use another's password or share passwords.
6. Users may not trespass in someone else's folders, work or files or disrupt the use of the network by others.
7. Do not intentionally waste limited disc space, save music, make any changes to workstation settings, and do not install any software.

Vandalism of the network will result in cancellation of privileges. Vandalism is defines as any malicious attempt to harm, modify or destroy computer hardware or systems, data of another user, Internet, or any other networks. This includes, but is not limited to, the uploading or creation of computer viruses.

**Security:** Security on any computer system is a high priority and the responsibility of all users. If you feel you can identify a security problem on the network, you must notify Network Administration. Do not demonstrate the problem to other users.

Users shall not intentionally seek information on, obtain copies of, or modify files, data or passwords belonging to other users, or misrepresent other users on the network.

Attempts to gain unauthorized access to system programs or computer equipment will result in cancellation of user privileges. Downloading of information onto the hard drives is prohibited. Data should be stored on the File server not local machines or usb drives. Sonicwall firewall protects network, opendns allows filtering of dangerous or offensive sites.

**Network Administration:** E-mail and any other accounts on the network are not private. Accounts will be monitored randomly on a regular basis. Computer files are the sole property of the owner and may not be viewed without the owner's permission; however, the Network Administration may audit any network activities. All communication and information accessible via



the network should not be assumed to be private property. Electronic mail (e-mail) is not private. Network administration does have access to all mail.

**Encounter of Controversial Material:** With access to the Internet also comes the availability of material that may not be considered to be of educational value in the context of the school setting. Great Lakes Academy has taken precautions to restrict access to controversial materials. Internet activity is monitored. However, on a global network it is impossible to control all materials and an industrious user may discover controversial information. It is the user's responsibility not to initiate access to such material. If inappropriate material is encountered, it is the students' responsibility to turn off the monitor and report the information to the teacher immediately. Not adhering to these mandates may result in loss of computer use and/or suspension from school. Any decision by Great Lakes Academy to restrict access to Internet material shall not be deemed to impose any duty on Great Lakes Academy to regulate the content of material on the Internet.

**Photo Release:** Pictures of students and staff participating in various activities, such as, classroom celebrations, sports and learning activities will be posted on the Great Lakes Academy website.

**Respect the Computer Equipment:** The System is a valuable educational tool that can easily be damaged if Users are not careful. Users must act responsibly around the equipment. Users must not tamper with any of the equipment, even if they believe they are fixing a hardware problem. To reduce the possibility of introducing or spreading computer viruses, Users MAY NOT download, or install files from any other sources. Disks from home can only be used if approved by a Technology staff member.

**Respect the Software Licenses:** Software purchasers may not realize it, but they do not really "own" the software they purchase. They simply obtain the right to use the software in accordance with the terms of a software license. The software license restricts the use of that software in many important respects, especially the number of computers on which the software may be installed. As a result, Users may not "borrow" software from Great Lakes Academy, even on a temporary or trial basis.

**Copyright Law:** Follow copyright law, patent law and licensing agreements for software programs and other data.

**Respect Ownership and Authorship:** It is easy to copy digital images and other information from the Internet and the electronic Encyclopedia. Users must be aware that other people may actually own this information and laws may restrict reproduction of that work even though it is widely available. For these reasons, Users should seek guidance from the Technology Staff when copying material. On a similar issue, Users may not plagiarize\* other people's work. This issue is not unique to computer use; but computers make it easy for unintentional plagiarism. \*(To plagiarize means to steal the language, ideas, or thoughts from another and represent them as your own original work.)

**Respect Resources:** Technology at Great Lakes Academy includes computers, printers and other hardware designed to meet the computing needs of students and staff. The school also provides the consumable supplies used with this equipment, such as toner cartridges and printer paper. These resources are limited and need to be used wisely. Students must get approval from the Technology staff before printing documents longer than 10 pages black and white or any color printing. The teacher must approve printing in the classroom. Only staff members (and those designated by staff) can use the scanner.

Great Lakes Academy, through a designated representative(s), reserves the right to access, read and delete any information stored on the network including documents, e-mail or other files.

Individuals who do not adhere to the Acceptable Use Policy are subject to disciplinary action including but not limited to loss of computer/network access. Disciplinary action will be based upon

### **Additional Information For Staff**

All Great Lakes Academy equipment, including voice mail is intended for school use. Staff may need to use equipment on occasion for personal matters unrelated to their employment. Reasonable use of the equipment for these purposes is acceptable. All use of Great Lakes Academy equipment is subject to monitoring. No right of privacy exists in favor of any employee of the firm in respect to this information.

No e-mail, voice mail or any message, file or record created by an employee is considered confidential even if this material is password protected. Any deleted message or file may be recovered and reviewed.

1. All information contained in Great Lakes Academy's computer system and the documents generated there from are for the exclusive use of Great Lakes Academy in connection with the conduct of its business and Great Lakes Academy clients.
2. At no time shall any employee display, send or resend any communication in any form that is, or could be regarded as, derogatory or discriminatory on the basis of race, sex, religion, national origin, age or disability.
3. Technology teacher and all other after-school teachers must be able to see all monitors during instruction time. All computers have been placed to insure that all monitor can be seen.

**This form must be signed and returned to Great Lakes Academy before an account will be initiated.**



**Great Lakes Academy  
Acceptable Use Policy**

I understand that it is a privilege to use Great Lakes Academy equipment and materials including: Computers, video microscopes, cameras, and the Internet, email, software and media materials. I promise to do the following:

1. I will use equipment and materials only as they are meant to be used.
2. I will practice common sense and responsibility when using them.
3. If misused, I will replace lost or damaged items.
4. I will not allow food or drink near any of the equipment or materials.
5. I will use the Internet and email according to my teacher's instructions and for academic purposes only.
6. I will not install any software.
7. I will not move workstations or exchange hardware.
8. I will not change any settings on the workstation.

**Great Lakes Academy  
Equipment and Material Use Contract**

I agree to honor this contract. If I do not follow this policy, I understand that the consequences will range from not being able to use equipment or materials for a brief time, to losing the privilege for the duration of the school year.

---

User Name (please print):

---

Parent/Guardian Signature:

---

Date

## Appendix B – METS Checklist (K-2)

Michigan Educational Technology Standards (METS) - K-8 Checklist by Grade Levels									
O = Teacher Observation	P = Portfolio Evidence	A = Formal Assessment	C = Technology Literacy Class						
Grades K through 2 – Technology Standards and Expectations – (by the end of Grade 2)									
<b>1. Basic Operations and Concepts.</b>			K	1	2				
<b>a. Students demonstrate a sound understanding of the nature and operation of technology systems.</b>									
1. Students understand that people use many types of technologies in their daily lives (e.g., computers, cameras, audio/video players, phones, televisions).									
2. Students identify common uses of technology found in daily life.									
3. Students recognize, name, and label the major hardware components in a computer system (e.g., computer, monitor, keyboard, mouse, printer).									
4. Students identify the functions of the major hardware components in a computer system.									
5. Students discuss the basic care of computer hardware and various media types (e.g., diskettes, CDs, DVDs, videotapes).									
6. Students proofread and edit their writing using appropriate resources including dictionaries and a class developed checklist both individually and as a group.									
<b>b. Students are proficient in the use of technology.</b>			K	1	2				
1. Students use various age-appropriate technologies for gathering information (e.g., dictionaries, encyclopedias, audio/video players, phones, web resources).									
2. Students use a variety of age-appropriate technologies for sharing information (e.g., drawing a picture, writing a story).									
3. Students recognize the functions of basic file menu commands (e.g., new, open, close, save, print).									
<b>2. Social, ethical, and human issues.</b>			K	1	2				
<b>a. Students understand the ethical, cultural, and societal issues related to technology.</b>									
1. Students identify common uses of information and communication technologies.									
2. Students discuss advantages and disadvantages of using technology.									
<b>b. Students practice responsible use of technology systems, information, and software.</b>			K	1	2				
1. Students recognize that using a password helps protect the privacy of information.									
2. Students discuss scenarios describing acceptable and unacceptable uses of age-appropriate technology (e.g., computers, phones, 911, internet, email) at home or at school.									
3. Students discuss the consequences of irresponsible uses of technology resources at home or at school.									
<b>c. Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.</b>			K	1	2				
1. Students understand that technology is a tool to help complete a task.									
2. Students understand that technology is a source of information, learning and entertainment.									
3. Students can identify places in the community where one can access technology.									
<b>3. Technology productivity tools.</b>			K	1	2				

<b>a. Students use technology tools to enhance learning, increase productivity, and promote creativity.</b>									
1. Students know how to use a variety of productivity software (e.g., word processors, drawing tools, presentation software) to convey ideas and illustrate concepts.									
2. Students will be able to recognize the best type of productivity software to use for a certain age-appropriate tasks (e.g., word-processing, drawing, web browsing).									
<b>b. Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.</b>	K	1	2						
1. Students are aware of how to work with others when using technology tools (e.g., word processors, drawing tools, presentation software) to convey ideas or illustrate simple concepts relating to a specified project.									
<b>4. Technology communications tools</b>	K	1	2						
<b>a. Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.</b>									
1. Students will identify procedures for safely using basic telecommunication tools (e.g., e-mail, phones) with assistance from teachers, parents, or student partners.									
<b>b. Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.</b>	K	1	2						
1. Students know how to use age-appropriate media (e.g., presentation software, newsletters, word processors) to communicate ideas to classmates, families, and others.									
2. Students will know how to select media formats (e.g., text, graphics, photos, video), with assistance from teachers, parents, or student partners, to communicate and share ideas with classmates, families, and others.									
<b>5. Technology research tools</b>	K	1	2						
<b>a. Students use technology to locate, evaluate, and collect information from a variety of sources.</b>									
1. Students know how to recognize the Web browser and associate it with accessing resources on the internet.									
2. Students will use a variety of technology resources (e.g., CD-ROMs, DVDs, search engines, websites) to locate or collect.									
<b>b. Students use technology tools to process data and report results.</b>	K	1	2						
1. Students will interpret simple information from existing age-appropriate electronic databases (e.g., dictionaries, encyclopedias, spreadsheets) with assistance from teachers, parents, or student partners.									
<b>c. Students evaluate and select new information resources and technological innovations based on the appropriateness to specific tasks.</b>	K	1	2						
1. Students can provide a rationale for choosing one type of technology over another for completing a specific task.									
<b>6. Technology problem-solving and decision-making tools</b>	K	1	2						
<b>a. Students use technology resources for solving problems and making informed decisions.</b>									
1. Students discuss how to use technology resources (e.g., dictionaries, encyclopedias, search engines, websites) to solve age-appropriate problems.									
<b>b. Students employ technology in the development of strategies for solving problems in the real world.</b>	K	1	2						
1. Students identify ways that technology has been used to address real-world problems (personal or community).									

## Appendix C – METS Checklist (3-5)

Michigan Educational Technology Standards (METS) - 3 <sup>rd</sup> to 5 <sup>th</sup> Checklist																		
O = Teacher Observation			P = Portfolio Evidence			A = Formal Assessment			C = Technology Literacy Class									
Grades Three through Five – Technology Standards and Expectations (By the end of Grade 5)																		
<b>1. Basic Operations and Concepts.</b>										3	4	5						
<b>a. Students demonstrate a sound understanding of the nature and operation of technology systems.</b>																		
1. Students discuss ways technology has changed life at school and home.																		
2. Students discuss ways technology has changed business and government over the years.																		
3. Students recognize and discuss the need for security applications (e.g., virus detection, spam defense, popup blockers, firewalls) to help protect information and to keep the system functioning properly.																		
<b>b. Students are proficient in the use of technology.</b>										3	4	5						
1. Students know how to use basic input/output devices and other peripherals: scanners, digital cameras, video projectors																		
2. Students know proper keyboarding positions and touch-typing techniques.																		
3. Students manage and maintain files on a hard drive or the network.																		
4. Students demonstrate proper care in the use of hardware, software, peripherals, and storage media.																		
5. Students know how to exchange files with other students using technology (e-mail attachments, network file sharing, disks, flash drives).																		
6. Students identify which types of software can be used most effectively for different types of data, for different information needs, or for conveying results to different audiences.																		
7. Students identify search strategies to locate information on the internet.																		
8. Students proofread and edit writing using appropriate resources (e.g., dictionary, spell check, grammar check, grammar references, and writing references) and grade level appropriate checklists individually /groups.																		
<b>2. Social, ethical, and human issues.</b>										3	4	5						
<b>a. Students understand the ethical, cultural, and societal issues related to technology.</b>																		
1. Students identify cultural and societal issues relating to technology.																		
2. Students discuss how information and communication technology supports collaboration, productivity, and lifelong learning.																		
3. Students discuss how various assistive technologies can benefit individuals with disabilities.																		
4. Students discuss the accuracy, relevance, appropriateness, and bias of electronic information sources.																		
<b>b. Students practice responsible use of technology systems, information, and software.</b>										3	4	5						
1. Students discuss scenarios describing acceptable and unacceptable uses of technology (e.g., computers, digital cameras, cell-phones, PDAs, wireless connectivity) and describe consequences of inappropriate use.																		
2. Students discuss basic issues regarding appropriate and																		

inappropriate uses of technology (e.g., copyright, privacy, file sharing, spam, viruses, and plagiarism) and related laws.														
3. Students use age-appropriate citing of sources for electronic reports.														
4. Students identify appropriate kinds of information that should be shared in public chat rooms.														
5. Students identify safety precautions that should be taken while on-line.														
<b>c. Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.</b>						3	4	5						
1. Students explore various technology resources that could assist them in pursuing personal goals.														
2. Students identify technology resources and describe how those resources improve the ability to communicate, increase productivity, or help them achieve personal goals.														
<b>3. Technology productivity tools.</b>														
<b>a. Students use technology tools to enhance learning, increase productivity, and promote creativity.</b>						3	4	5						
1. Students know how to use menu options in applications to print, format, add multimedia features; open, save, manage files; and use various grammar tools (e.g., dictionary, thesaurus, spell-checker).														
2. Students know how to insert various objects (photos, graphics, sound, video) into word processing documents, presentations, web documents.														
3. Students use a variety of technology tools and applications to promote their creativity.														
4. Students understand that existing (and future) technologies are the result of human creativity.														
<b>b. Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.</b>						3	4	5						
1. Students collaborate using a variety of technology tools to plan, organize, create group project.														
<b>4. Technology communications tools</b>														
<b>a. Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.</b>						3	4	5						
1. Students use telecommunication (e-mail, WebQuests, IM, blogs, chat rooms, web conferencing) for collaborative projects with other students.														
<b>b. Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.</b>						3	4	5						
1. Students use a variety of media and formats to create/edit products (presentations, newsletters, brochures, web pages) to communicate information/ideas to various audiences.														
2. Students identify how different forms of media and formats may be used to share similar information, depending on the intended audience (e.g., presentations for classmates, newsletters for parents).														
<b>5. Technology research tools</b>														
<b>a. Students use technology to locate, evaluate, and collect information from a variety of sources.</b>						3	4	5						
1. Students use Web search engines and built-in search functions of other resources to locate information.														
2. Students describe basic guidelines for determining the validity of information accessed from various sources (e.g., web site, dictionary, on-line newspaper, CD-ROM).														
<b>b. Students use technology tools to process data and report results.</b>						3	4	5						

1. Students know how to independently use existing databases (e.g., library catalogs, electronic dictionaries, encyclopedias) to locate, sort, and interpret information on an assigned topic.											
2. Students perform simple queries on existing databases and report results on an assigned topic.											
<b>c. Students evaluate and select new information resources and technological innovations based on the appropriateness to specific tasks.</b>				3	4	5					
1. Students identify appropriate technology tools and resources by evaluating the accuracy, appropriateness, and bias of the resource.											
2. Students compare and contrast the functions and capabilities of the word processor, database, and spreadsheet for gathering data, processing data, performing calculations, and reporting results.											
<b>6. Technology problem-solving and decision-making tools</b>				3	4	5					
<b>a. Students use technology resources for solving problems and making informed decisions.</b>											
1. Students use technology resources to access information that can assist them in making informed decisions about everyday matters (e.g., which movie to see, which product to purchase).											
<b>b. Students employ technology in the development of strategies for solving problems in the real world.</b>				3	4	5					
1. Students use information/communication technology (calculators, probes, videos, DVDs, software) to collect, organize, and evaluate information to assist with solving real-life problems (personal or community).											



## Appendix D – METS Checklist (6-8)

Michigan Educational Technology Standards (METS) - 6 <sup>th</sup> to 8 <sup>th</sup> Checklist									
O = Teacher Observation	P = Portfolio Evidence	A = Formal Assessment	C = Technology Literacy Class						
<b>Grades Six through Eight – Technology Standards and Expectations (by the end of Grade 8)</b>									
<b>1. Basic Operations and Concepts.</b>									
<b>a. Students demonstrate a sound understanding of the nature and operation of technology systems.</b>									
1.	Students understand that new technology tools can be developed to do what could not be done without the use of technology.								6 7 8
2.	Students describe strategies for identifying, and preventing routine hardware/software problems that may occur during everyday technology use.								
3.	Students identify changes in hardware and software systems over time and discuss how these changes affected various groups (e.g., individual users, education, government, and businesses).								
4.	Students discuss common hardware/software difficulties and identify strategies for trouble-shooting and problem solving.								
5.	Students identify characteristics suggesting computer system hardware/software may need to be upgraded.								
<b>b. Students are proficient in the use of technology.</b>									
1.	Students use proper keyboarding posture, finger positions, and touch-typing techniques to improve accuracy, speed, and general efficiency in operating a computer.								6 7 8
2.	Students use accurate technology terminology.								
3.	Students use a variety of technology tools (e.g., dictionary, thesaurus, grammar-checker, calculator) to maximize the accuracy of technology-produced products.								
4.	Students identify a variety of information storage devices (e.g., floppies, CDs, DVDs, flash drives, tapes) and provide a rationale for using a certain device for a specific purpose.								
5.	Students identify technology resources that assist with various consumer related activities (e.g., budgets, purchases, banking transactions, product descriptions).								
6.	Students can identify appropriate file formats for a variety of applications.								
7.	Students can use basic utility programs or built-in application functions to convert file formats.								
8.	Students proofread and edit writing using appropriate resources (dictionary, spell check, grammar check, grammar references, writing references) and grade level appropriate checklists individually and groups.								
<b>2. Social, ethical, and human issues.</b>									
<b>a. Students understand ethical, cultural, societal issues related to technology.</b>									
1.	Students understand the potential risks and dangers associated with on-line communications.								6 7 8
2.	Students identify security issues related to e-commerce.								
3.	Students describe possible consequences and costs related to unethical use of information and communication technologies.								
4.	Students discuss societal impact of technology in the future.								
<b>b. Students practice responsible use of technology systems/information/software</b>									
1.	Students provide accurate citations when referencing information from outside sources in electronic reports.								6 7 8

2. Students discuss issues related to acceptable and responsible technology use (privacy, security, copyright, plagiarism, spam, viruses, file-sharing).												
<b>c. Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.</b>								6	7	8		
1. Students use technology to identify/explore various occupations/careers.												
2. Students discuss uses of technology (present and future) to support personal pursuits and lifelong learning.												
3. Students identify uses of technology to support communication with peers, family, or school personnel.												
<b>3. Technology productivity tools.</b>								6	7	8		
<b>a. Students use technology tools to enhance learning, increase productivity, and promote creativity.</b>												
1. Students apply common software features (thesaurus, formulas, charts, graphics, sounds) to enhance communication and to support creativity.												
2. Students use a variety of resources, including the internet, to increase learning and productivity.												
3. Students explore basic applications that promote creativity (e.g., graphics, presentation, photo-editing, programming, video-editing).												
4. Students use available utilities for editing pictures, images, or charts.												
<b>b. Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.</b>								6	7	8		
1. Students use collaborative tools to design, develop, and enhance materials, publications, or presentations.												
<b>4. Technology communications tools</b>								6	7	8		
<b>a. Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.</b>												
1. Students use various telecommunication (e-mail, discussion groups, IM, chat rooms, blogs, video-conferences, web conferences), other online resources to collaborate interactively with peers, experts, other audiences.												
<b>b. Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.</b>								6	7	8		
1. Students create a project (presentation, web page, newsletter, information brochure) using a variety of media and formats (graphs, charts, audio, graphics, video) to present content information to an audience.												
<b>5. Technology research tools</b>								6	7	8		
<b>a. Students use technology to locate, evaluate, and collect information from a variety of sources.</b>												
1. Students use a variety of Web search engines to locate information.												
2. Students evaluate information from various online resources for accuracy, bias, appropriateness, and comprehensiveness.												
3. Students can identify types of internet sites based on their domain names (e.g., edu, com, org, gov, au).												
<b>b. Students use technology tools to process data and report results.</b>								6	7	8		
1. Students know how to create and populate a database.												
2. Students can perform queries on existing databases.												
3. Students know how to create and modify a simple database report.												
<b>c. Students evaluate and select new information resources and technological innovations based on the appropriateness to specific tasks.</b>								6	7	8		
1. Students evaluate new technology tools and resources and determine the most appropriate tool to use for accomplishing a												

specific task.											
<b>6. Technology problem-solving and decision-making tools</b>											
<b>a. Students use technology resources for solving problems and making informed decisions.</b>									6	7	8
1. Students use database or spreadsheet information to make predictions, develop strategies, and evaluate decisions to assist them with solving a basic problem.											
<b>b. Students employ technology in the development of strategies for solving problems in the real world.</b>									6	7	8
1. Students describe the information and communication technology tools to use for collecting information from different sources, analyze their findings, and draw conclusions for addressing real-world problems.											

## Appendix E – Technology Standards for Teachers

### **Technology Standards for Teachers** (Developed by ISTE and adopted by the State of Michigan)

- I. TECHNOLOGY OPERATIONS AND CONCEPTS.** Teachers demonstrate a sound understanding of technology operations and concepts. Teachers:
  - a. Demonstrate introductory knowledge, skills, and understanding of concepts related to technology (as described in the ISTE National Education Technology Standards for Students)
  - a. Demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies.
  
- II. PLANNING AND DESIGNING LEARNING ENVIRONMENTS AND EXPERIENCES.** Teachers plan and design effective learning environments and experiences supported by technology. Teachers:
  - a. Design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.
  - b. Apply current research on teaching and learning with technology when planning learning environments and experiences.
  - c. Identify and locate technology resources and evaluate them for accuracy and suitability.
  - d. Plan for the management of technology resources within the context of learning activities.
  - e. Plan strategies to manage student learning in a technology-enhanced environment.
  
- III. TEACHING, LEARNING, AND THE CURRICULUM.** Teachers implement curriculum plans that include methods and strategies for applying technology to maximize student learning. Teachers:
  - a. Facilitate technology-enhanced experiences that address content standards and student technology standards.
  - b. Use technology to support learner-centered strategies that address the diverse needs of students.
  - c. Apply technology to develop students' higher order skills and creativity.
  - d. Manage student-learning activities in a technology-enhanced environment.

- IV. ASSESSMENT AND EVALUATION.** Teachers apply technology to facilitate a variety of effective assessment and evaluation strategies. Teachers:
- a. Apply technology in assessing student learning of subject matter using a variety of assessment techniques.
  - b. Use technology resources to collect and analyze data, interpret results, and communicate findings to improve instructional practice and maximize student learning.
  - c. Apply multiple methods of evaluation to determine students' appropriate use of technology resources for learning, communication, and productivity.
- V. PRODUCTIVITY AND PROFESSIONAL PRACTICE.** Teachers use technology to enhance their productivity and professional practice. Teachers:
- a. Use technology resources to engage in ongoing professional development and lifelong learning.
  - b. Continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning.
  - c. Apply technology to increase productivity.
  - d. Use technology to communicate and collaborate with peers, parents, and the larger community in order to nurture student learning.
- VI. SOCIAL, ETHICAL, LEGAL, AND HUMAN ISSUES.** Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply those principles in practice. Teachers:
- a. Model and teach legal and ethical practice related to technology use.
  - b. Apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities.
  - c. Identify and use technology resources that affirm diversity
  - d. Promote safe and healthy use of technology resources.
  - e. Facilitate equitable access to technology resources for all students.

## Appendix F – Technology Strategies

### Technology Strategies /English Language Art/ Mathematics

Improvement Strategies Research Based	Person(s) Responsible	Resources to be used	Timeline	Monitoring
1. Computer Lab twice a week, using Websites for math games, and problems solving web-based (Harcourt Reading/Math) as well as Glory Math/English Learning Systems <a href="http://www.harcourtschool.com">www.harcourtschool.com</a> . <a href="http://www.glorymath.com">www.glorymath.com</a> <a href="http://www.studyisland.com">www.studyisland.com</a> *map reading website *map math website	Staff	Computer, Software Consultants	On-going	Administration
2. Students create story problems on computer for other students to solve.	Staff	Computer, Software, Consultants	On-going	Administration
3. Use resource people from radio/TV/Newspaper, automobile companies, local business, architects.	Staff	Computer, Software, Consultants	On-going	Administration

### Technology Strategies / Science

Improvement Strategies Research Based	Person(s) Responsible	Resources to be used	Timeline	Monitoring
1. Computer Lab twice a week, using websites for math/science games, and problems solving (Harcourt Science) <a href="http://www.harcourtschool.com">www.harcourtschool.com</a>	Staff	Software	On-going	Administration
2. Student made newsletter	Students	Computer Lab /Classroom	On-going	Administration
3. Field trips to places of employment that use Technology	Staff Resource People	Local Businesses	On-going	Administration
4. Create Power Point Presentations	Trainers	Computer Lab /Classroom	On-going	Administration
5. Internet access for research and communication with a variety of science institutes and corporations.	Resource Persons /Staff	Computer Lab / Media Center / Library	On-going	Administration
6. Workshops with experienced technology persons making things that can be used in classroom.	Staff /Outside Sources	ISD/Consultants	On-going	Administration

## Technology Strategies / Social Studies and Science

Improvement Strategies Research Based	Person(s) Responsible	Resources to be used	Timeline	Monitoring
1. Integrating Technology across the curriculum	Teacher	Professional Development Resources and Activities	Ongoing	Administration
2. Continuous training of both teachers and students in basic computer skills	Teacher	Computer Lab / Classroom / Media Center	Ongoing	Administration
3. Utilizing the internet	Teacher	Computer Lab / Classroom / Media Center	Ongoing	Administration
4. Computer managed instruction	Teacher	Computer Lab / Classroom	Ongoing	Administration
5. Cross/global e-mail connections with other students in educational institutions.	Teacher	Computer Lab / Classroom Connect Harcourt	Ongoing	Administration

## Appendix G – Preliminary Technology Budget

### 2012-2015 PRELIMINARY TECHNOLOGY BUDGET

School Years and Technology	Funding Sources				
	School Budget Funds	Local business and community donations	State funds	Grant Funds and Telecom Reimbursements	Other
<b>School Year 2012-13</b>					
Electrical Upgrade	\$188,000			0	
Computers and instructional hardware and software	\$10,000			0	
Updates/upgrades				\$10,000	
Telecommunications	\$13,000			\$9,000	
Network infrastructure	\$5,000			0	
Staff development (training)				\$10,000	
Maintenance/Tech support	\$22,000			0	
Parental/community training and collaboration	\$2,000	\$2,000		\$2,000	
<b>TOTALS</b>	<b>\$240,000.00</b>	<b>\$2,000.00</b>	<b>0</b>	<b>\$31,000.00</b>	<b>0</b>

<b>School Year 2013-14</b>					
Computers and instructional hardware and software	\$10,000			0	
Video/media equipment	\$25,000			0	
Updates/upgrades	\$15,000			0	
Telecommunications	\$15,000			\$10,000	
Network infrastructure	\$20,000			0	
Staff development (training)	\$5,000			\$10,000	
Maintenance/Tech support	\$30,000			0	
Parental/community training and collaboration	\$2,000	\$2,000		\$2,000	
<b>TOTALS</b>	<b>\$122,000.00</b>	<b>\$2,000.00</b>	<b>0</b>	<b>\$22,000.00</b>	<b>0</b>

<b>School Year 2014-15</b>					
Computers and instructional hardware and software	\$10,000			0	
Updates/upgrades	\$15,000			0	
Telecommunications	\$15,000			\$10,000	
Network infrastructure	\$5,000			0	
Staff development (training)	\$5,000			\$10,000	
Maintenance/Tech support	\$30,000			0	
Parental/community training and collaboration	\$2,000	\$2,000		\$2,000	
<b>TOTALS</b>	<b>\$82,000.00</b>	<b>\$2,000.00</b>	<b>0</b>	<b>\$22,000.00</b>	<b>0</b>