

**HOOSICK FALLS CENTRAL SCHOOL
DISTRICT**



Instructional Technology Plan

2018-2021

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II. Preface

The Hoosick Falls Central School District (HFCSD) Board of Education recognizes that the use of technology plays an important role in improving the quality of instruction and is a tool for the entire learning community. Students graduating from HFCSD must possess the knowledge, skills, and attitudes necessary to succeed in an increasingly complex, global, information-based society.

III. The Philosophy of Technology:

Mission Statement, Vision and Goals

A. Mission Statement

“The mission of the Hoosick Falls Central School District is to develop responsible citizens who possess the knowledge, skills, and values to be successful participants in a global society.”

B. Vision and Goals

At the center of the strategic directions for HFCSD is student learning. In order to prepare our students in an ever-changing world, our goal is to provide the knowledge and skills for their success. It is our belief that students must not only meet the standard of excellence in education and become responsible citizens in our society with the help of technology but also must be capable users of technology to succeed in our complex, global world. The use of technology is a critical 21st-century skill and an integral part of a student learning and working in today’s society. Students using technology to exchange and collaborate on projects, access, evaluate, and master digital resources will have the means to be productive citizens in our society.

IV. Technology and Infrastructure

A. Equipment

Specifications and Standards:

All Technology Purchases of Hardware should meet the following criteria:

1. Equipment specifications for all computer equipment and related technology peripherals should be configured with the input of a member of the technology department.
2. Technology Purchases of equipment should be determined by discussions and requests from the building administrators and technology department.
3. Specifications should be established and should be updated annually.
4. Buildings Administrators should contact the Technology Department for infrastructure support on equipment.

Inventory and Installation:

All equipment should be tested and installed by the Technology Department. It will be inventoried prior to installation. Special installation considerations must have proper planning and involvement from the Technology Department.

Technology Maintenance:

This includes setup of hardware, installation of software, software and hardware maintenance, network management, upgrades, management of inventory database, and contact/coordination of district resources to aid in the above maintenance issues. The Technology Department, qualified vendors, Technology Representatives, and Technology Training Specialists perform these tasks.

The District's investment in qualified computer and network staff can aid in the timely maintenance and assessment of useful equipment. Equipment is obsolete when you can no longer keep it in good repair, and/or there is no longer software available to meet instructional or administrative needs. Therefore, the following questions are considered and addressed by the Technology Department when reviewing a piece of technology's value to an educational setting.

When should equipment be upgraded?

1. Once equipment is obsolete, how will new equipment be purchased?
2. What is the effective life cycle of equipment?
3. Can it be used in a less critical application?

Central Office

A school system central office performs administrative duties for the school. The HFCSD central office is comprised of the District office, Business office, High School and Elementary Main offices, Guidance Office and the Special Education office. The two major functions of the central office are financial management and student record keeping. A central office LAN, client server configuration, currently administrates financial management and the student information management.

Central Office LAN Hardware

The central office LAN will be equipped with multiple servers, computer workstations, and printers as needed. Each office will be provided with a connection for statewide network resource sharing, Internet access, and electronic mail.

Central Office LAN Software

The central office's core function with regard to data is record keeping. The central office has two distinct data sets it is responsible for, personnel/student information and financial information. Two separate software packages are used to facilitate the management of these functions. The financial package resides on a server located within the LAN. The Student Information System has been migrated to a cloud infrastructure where clients access the database via the Internet through a web browser.

In addition to the central office, LANs should have software for the following functions:

- Personnel and payroll functions
- School transportation management, including bus routing
- School planning
- Fixed assets tracking - current fixed assets within the school district
- Electronic mail, Internet, distance learning and teleconferencing
- Internet Content Filtering

Classroom Workstations

All teacher workstations must be capable of accessing an Internet service provider, currently Cornerstone, in order to serve the instructional and administrative needs of the teacher. Each workstation, with appropriate software, will increase teacher capability to reduce the administrative workload, decrease paperwork requirements, and allow access to all pertinent student information. The workstation must have the capacity to serve as the classroom management and instructional enhancement tool for the teacher.

Student Workstations

Student computer workstations will be available in all classrooms in the appropriate number and with the capability of meeting the specific objectives identified in the school technology plan. To achieve equity, all students must have access to Internet functions. In addition, certain subject-specific labs may be provided to meet identified needs; for example, a CAD/CAM lab for teaching engineering drawing, a lab for keyboarding, or a lab for teaching programming. Student workstation totals are provided in the equipment list.

Students with Disabilities

The District contracts with an assistive technology consultant in order to locate/develop/purchase specific devices and/or software for students with disabilities. The consultant also conducts in-service training/professional development for all staff involved with the specific devices. In addition, the Director of Special Education and Technology Department, in coordination with building-level administrators, review and make decisions based on teacher and parent generated requests for new and emerging technologies. Proposals

for new technology must include, among other things, how the technology will be integrated into the curriculum, and whether or not the purchase can operate within the current infrastructure.

B. Networking

The design of the network has created a Local Area Network (LAN) in all areas of the school to provide students, teachers, and administrator's access to technology network resources such as servers, printers, and the Internet. Implementation of a LAN involves the installation of a cabling system to distribute the network throughout the school structures. Installation of cabling and switches is necessary to support the connection of computers, printers, scanners, or other peripheral devices, network server(s), and to provide for connection to the Internet.

All local area networks in the HFCS D have the following common abilities:

- File services - applications and data stored in a common area, files locked to ensure file integrity
- Print services - printers shared by users on the network, print jobs sent to a network queue
- E-mail services - messages sent to/from internally or to the outside world, the capability for attaching computer files to internal messages, efficient messaging techniques such as distribution lists
- CD-ROM resources - common CD-ROM applications shared on a LAN by a CDROM server
- Backup services - fully automated network backups performed on a daily basis, including USB rotation schedules
- File security - files and directories assigned access rights based on user authorization
- User account security - password access to network resources, network privileges, user accounts by groups assigned access privileges, time and location restrictions applied to a user name or user type
- Intranet/Internet access - access to resources on both the Intranet and the Internet for research, ideas, communication, and file downloads.

The diagram on the following page represents the current design of our local and wide area network.

V. Software and IT Support

Guidelines for determining software for district-wide purchase will be determined by the Director of Curriculum, Instruction and Assessment and Chief Information Officer. The purpose of the district level software selection is to provide a standard group of application software to allow every computer and its user the ability to perform basic operations and to ensure the protection and maintenance of the hardware.

Each device will include the following Basic Level of Software:

- Network/System Operating System
- Office Products package
- (Word processing, spreadsheet, presentation, database)
- Electronic Mail
- Internet Browser
- Virus Protection Software
- Location dependent Educational Software

Additional software, both educational and curriculum driven will be selected and purchased at the school site level upon administrative review.

The following software/systems are currently used in the District:

- Operating Systems:
 - o Mac OSX, Windows XP, Windows 7.0, Windows 8.0, Apple iOS 7,
 - o Chrome OS, Android
- Web Browsers:
 - o Internet Explorer 8, Internet Explorer 9, Google Chrome
- Instructional Software Programs:
 - o MS Office, Smart Notebook, Learning A-Z, Google Apps, Castle Learning
- Parent Portal:
 - o Attendance, Homework, Student Schedules, Grade Reporting
- Additional:
 - o Emergency Broadcast System, Website, Facebook, Twitter
- Staff Assigned to Technology Support:
 - o Chief Information Officer, Network Analyst, and Network Technician

VI. Curriculum and Instruction

HFCSD uses the Crosswalk for the ISTE and NYS Educational Technology Learning Standards as the foundation for technology curriculum:

1. Creativity and innovation
2. Communication and collaboration
3. Research and information fluency
4. Critical thinking, problem-solving and decision making.

Students demonstrate creative thinking, constructive knowledge, and develop innovative products and processes using technology; Students use digital media and environments to communicate and work collaboratively to support individual learning and contribute to the learning of others; Students apply digital tools to gather, evaluate and use information, use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources; Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior; Students demonstrate a sound understanding of technology concepts, systems, and operations.

For students with disabilities, the Director of Special Education, building administrators and technology department work together as a team to review and make decisions based upon teacher-generated and/or parent-generated requests for new and emerging technologies. Decisions are decided on a case-by-case basis through the CSE Committee to meet the individual cognitive, affective and/or psychomotor needs of the student to satisfy multiple means of representation, action/expression and engagement.

Instructional Technology Standards *K-12 Curriculum and Student Goals*

The International Society for Technology in Education has established six standards for K-12 education.

- 1. Creativity and Innovation**
 - Students can brainstorm, develop new ideas, and act on creative ideas to make them tangible.
- 2. Communication and Collaboration**
 - Students are able to listen effectively and formulate their own thoughts and ideas. They are able to effectively work with others to accomplish a common goal.
- 3. Research and Information Fluency**
 - Students can find and evaluate information from online sources. They can communicate using the most effective forms of media.
- 4. Critical Thinking and Problem Solving**
 - Students are able to interpret, analyze, and evaluate new information. They can solve non-familiar problems in conventional and innovative ways.
- 5. Digital Citizenship**
 - Students practice safe, legal, and ethical online behavior. They understand cultural and societal issues related to technology and the Internet.
- 6. Technology Operations and Concepts**
 - Students understand how to use technology systems, safely, effectively, and productively. They understand computer fundamentals and have skills in keyboarding, word processing, and making charts and graphs.

VII. Technology Policies

Technology Policies are put in place to maintain the integrity, safety, and security of the technology in the District.

The Board of Education's intentions for publishing technology policies are not to impose restrictions that are contrary to the HFCSD's established culture of openness, trust, and integrity. The Board of Education is committed to protecting HFCSD's employees, students and the school district from illegal or damaging actions by individuals, either knowingly or unknowingly.

Effective security is a team effort involving the participation and support of every HFCSD employee and affiliate who deals with information and/or information systems. It is the responsibility of every computer user to know these guidelines and to conduct their activities accordingly.

The HFCSD approved the following policies:

1. Computer Use In Instruction
2. Computer Use In Instruction Regulation
3. Internet Safety
4. Internet Safety In Regulation
5. Network and Application Password Policy

These policies can be found in detail in Appendix A.

VIII. Professional Development and Training

As new technologies become part of the HFCSD, a different kind of classroom has emerged. Through the network, teachers can communicate with and support their peers through sharing information, instructional strategies, experiences, frustrations, and successes. Confident teachers and administrators, proficient in the uses of technology will become the key to an enhanced learning environment for students. These new technologies require teachers to regularly update their familiarity with the information and communication in order to adequately prepare students for their professional and personal lives. Studies show that teachers who are accomplished in using technology in their instruction:

- expect more from their students;
- spend more time with individual students;
- are comfortable with students working independently or in small groups when
- using computers;
- spend less time lecturing and teaching to the whole class;
- desire longer blocks of time for students to use technology to complete class
- assignments; and
- find they need greater and greater access to technologies.

(Digital Futures; Office of Technology Assessment, Washington D.C.)

IX. Technology Investment Plan

Funding of Technology will continue to be funded through local budgeted money, grants, state initiative (ex: Smart Schools Bond Act) and capital projects. Some of the costs that are associated with technology spending and should be considered for future allocations are:

- Hardware: Computers, printers, and other equipment.
- Software and other educational material for technology instruction.
- Connection fees for services such as an Internet Service Provider of content provide.
- Professional development and training.
- Maintenance and upgrading of all equipment and software.
- Infrastructure upgrades on wiring or electrical supplies.

X. Monitoring and Evaluation

Through annual surveys and observations, the building level administrators and technology staff will evaluate the implementation of the District's Instructional Technology Plan to improve teaching and learning. Monthly updates will be provided by the building level administrators and technology department staff to analyze the use of technology.

Appendix A: Board Policy Links

The following are links to the on-line Board Policies:

4526	Computer Use in Instruction
4526-R	Curriculum Management
4526.1-R	Internet Safety
4526.2	Student Computer & Internet Use
4562.2-R	Student Computer & Internet Use Regulation
8330	Authorized Use of School-Owned Materials & Equipment
8630	Computer Resources and Data Management
8635	Information Security Breach and Notification
8635-R	Information Security Beach and Notification Regulation

Appendix B: Instructional Technology Scope and Sequence

INTRODUCTION

- This Scope and Sequence is adapted from the Fresno County Office of Education Recommended Digital Literacy and Technology Skills.
- The skills identified for each grade level align to New York’s Next Generation Learning Standards (NGLS) for Mathematics and English Language Arts & Literacy.
- Additional skills identified in this Scope and Sequence are from the International Society for Technology in Education (2016): Empowered Learner, Digital Citizen, Knowledge Constructor, Innovative Designer, Computational Thinker, Creative Communicator, and Global Connector.

Standards: Grade levels are not specified for the standards as they are indicated in the grade level columns.

Next Generation English Language Arts Anchor Standards	Next Generation Mathematics Standards
<p>R - Reading Standards for Literature and Informational Text RF – Reading Foundational Skills W - Writing SL - Speaking and Listening L - Language</p>	<p>CC – Counting and Cardinality OA – Operations and Algebraic Thinking NBT – Number and Operations in Base Ten NF – Number and Operations: Fractions RP – Ratios and Proportional Relationships NS – The Number System EE - Expressions, Equations, and Inequalities F - Functions MD – Measurement and Data G - Geometry SP - Statistics and Probability NQ – Number and Quantity A - Algebra M - Modeling</p>

The scope and sequence outlines skills from K-12, broken up into sections for K-6 and 7-12. While students in grades K, 1, 2, 9, 10 and 12 are not tested for NGSS, the skills help build basic technology competencies to support the grade levels at which the students are tested.

The Scope and Sequence identifies which grade levels the skills need to be Introduced (I), Reinforced (R) and Mastered (M). Skills identified as Optional for Grade Level (O) are left to the discretion of the teacher who may choose to teach the skills to the students.

Elementary

Hoosick Falls K-6 Technology Scope and Sequence

Digital Literacy Categories		Alignment to NGLS/(ISTE)	Skills	K	1	2	3	4	5	6
Empowered Learner: Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.	B a s i c O p e r a t i o n s	(1d)	Turn on a computer and login	I	R	M	M	M	M	M
		(1d)	Use pointing device such as a mouse to manipulate shapes, icons; click on URL's, radio buttons, check boxes; use scroll bar	I	R	M	M	M	M	M
		(1d)	Use desktop icons, windows and menus to open applications and documents	I	R	M	M	M	M	M
		(1d, 2d)	File management – saving documents	O	I	R	M	M	M	M
		(1d)	Explain and use age-appropriate online tools and resources (e.g. tutorial, assessment, web browser)		I	R	M	M	M	M
		NGLS Lifelong Writers Practice	Keyboarding <ul style="list-style-type: none"> ● Use proper posture and ergonomics ● Locate and use letter and numbers keys with left and right hand placement. ● Locate and use correct finger, hand for space bar, return/enter and shift key ● Gain proficiency and speed in touch typing 	I	R	M	M	M	M	M
		(1d)	Identify successful troubleshooting strategies for minor hardware and software issues/problems (e.g., “frozen screen”).					I	R	R
		(1d)	Independently operate peripheral equipment (e.g., scanner, digital camera, camcorder), if available.						I	R
		(1d, 2d)	Identify and use a variety of storage media (e.g., CDs, DVDs, flash drives, school servers, and online storage spaces), and provide a rationale for using a certain medium for a specific purpose.					I	R	R
		NGLS Lifelong Writing Practice	Demonstrate automaticity in keyboarding skills by increasing accuracy and speed. (For students with disabilities, demonstrate alternate input techniques as appropriate.)					I	R	R
(1d)	Identify and assess the capabilities and limitations of emerging technologies.						I	R		
I = Introduce, R = Reinforce, M = Mastery (ability to teach others), O = Optional for grade level										

Hoosick Falls K-6 Technology Scope and Sequence

Digital Literacy Categories		Alignment to NGLS(ISTE)	Skills	K	1	2	3	4	5	6	
Empowered Learner: Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.	W o r d p r o c e s s i n g	W1, W2, W3, W4	Use a word processing application to write, edit, print and save simple assignments	I	R	M	M	M	M	M	
		R4, W1, W2, W3, W4	Use menu/tool bar functions (e.g. font/size/style/, line spacing, margins) to format, edit and print a document		I	R	M	M	M	M	
		R1, W1, W2, W3, W4, W5, W6	Highlight text, copy and paste text		O	I	R	R	M	M	
		R7, W1, W2, W3, W4, SL5	<ul style="list-style-type: none"> Copy and paste images within the document and from outside sources. Insert and size a graphic in a document 		I	R	M	M	M	M	
		R4, W2, L1, L2, L3	Proofread and edit writing using appropriate resources (e.g. dictionary, spell checker, grammar, and thesaurus).		O	I	R	R	M	M	
		W1, W2, W3, W4	Demonstrate use of intermediate features in word processing application (e.g., tabs, indents, headers and footers, end notes, bullet and numbering, tables).						I	R	R
		R7, W1, W2, W3, W4	Apply advanced formatting and page layout features when appropriate (e.g., columns, templates, and styles) to improve the appearance of documents and materials.							I	R
		R1, R2, R4, R6, W2, W6, SL1, SL2, SL3, SL4, SL5, SL6, RF4	Use the Comment function in review for peer editing of documents								
I = Introduce, R = Reinforce, M = Mastery (ability to teach others), O = Optional for grade level											

Hoosick Falls K-6 Technology Scope and Sequence

Digital Literacy Categories		Alignment to NGLS	Skills	K	1	2	3	4	5	6
Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.	Spreadsheets/Charts & Graphs)	R1, R4, RI5, SP2	Demonstrate an understanding of the spreadsheet as a tool to record, organize and graph information.				I	R	M	M
		R1, R2, R4, R5, W5, MD, SL2	Identify and explain terms and concepts related to spreadsheets (i.e. cell, column, row, values, labels, chart graph)			O	I	R	M	M
		W2, MD, NS, EE, MD, F, OA	Enter/edit data in spreadsheets and perform calculations using formulas			O	I	R	M	M
		R4, R5, EE, MD, NS, NBT, OA	Use mathematical symbols e.g. + add, - minus, *multiply, /divide, ^ exponents				I	R	M	M
		R1, R3, R4, R5, R7, W5, MD	Use spreadsheets and other applications to make predictions, solve problems and draw conclusions.				I	R	M	M
		R1, W5, MD, F	Use spreadsheets to calculate, graph, organize, and present data in a variety of real-world settings and choose the most appropriate type to represent given data							I
		W2, F, EE, NS	Enter formulas and functions; use the auto-fill feature in a spreadsheet application.							I
		W2, F, EE, R1	Use functions of a spreadsheet application (e.g., sort, filter, find).							I
		F	Use advanced formatting features of a spreadsheet application (e.g., reposition columns and rows, add and name worksheets).							I
Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.	Multi media & Presentation Tools	W2, W5, L1, L2	Create, edit and format text on a slide.				I	R	M	M
		W2, W5, SL	Copy and paste or import graphics; change their size and position on a slide			O	I	R	M	M
		W2, SL	Use painting and drawing tools/ applications to create and edit work				I	R	M	M
	R1, W5, W6, W7	Watch online videos and use play, pause, rewind and forward buttons while taking notes		I	R	M	M	M	M	
	Mathematical Applications	R1, R2, W1, W2, W5, W6, R6	Explain and demonstrate how specialized technology tools can be used for problem solving, decision making, and creativity in all subject areas (e.g., simulation software, environmental probes, computer aided design, geographic information systems, dynamic geometric software, graphing calculators).							I

I = Introduce, R = Reinforce, M = Mastery (ability to teach others), O = Optional for grade level

Hoosick Falls K-6 Technology Scope and Sequence

Digital Literacy Categories		Alignment to NGLS(ISTE)	Skills	K	1	2	3	4	5	6
Digital Citizenship: Students recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical.	Acceptable Use, Copyright & Plagiarism	Digital Citizenship	Explain and demonstrate compliance with classroom, school rules (Acceptable Use Policy) regarding responsible use of computers and networks	I	R	M	M	M	M	M
		Digital Citizenship	Students demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.		I	R	M	M	M	M
		Digital Citizenship	Identify and explain the strategies for the safe and efficient use of computers (e.g. passwords, virus protection software, spam filters, popup blockers)		I	R	M	M	M	M
		Digital Citizenship	Demonstrate safe email practices, recognition of the potentially public exposure of email and appropriate email etiquette				I	R	M	M
		Digital Citizenship	Students engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.	I	R	M	M	M	M	M
		Digital Citizenship	Recognize and describe the potential risks and dangers associated with various forms of online communications		I	R	M	M	M	M
		Digital Citizenship	Explain the potential risks associated with the use of networked digital environments (e.g., internet, mobile phones, wireless, LANs) and sharing personal information.				I	R	R	M
		Digital Citizenship	Analyze and explain how media and technology can be used to distort, exaggerate, and misrepresent information.							I
		Digital Citizenship	Give examples of hardware and applications that enable people with disabilities to use technology.							I

I = Introduce, R = Reinforce, M = Mastery (ability to teach others), O = Optional for grade level

Digital Literacy Categories	Alignment to NGLS	Skills	K	1	2	3	4	5	6	
Knowledge Constructor : Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.	Research & Gathering Information	R1, R2, W1, W2, W5, W6, W7	Use age appropriate technologies to locate, collect, organize content from media collection for specific purposes, citing sources	I	R	M	M	M	M	M
		R1, W1, W5, W6, W7	Perform basic searches on databases, (e.g. library, card catalog, encyclopedia) to locate information.			I	R	M	M	M
		R1, R2, R5, W6	Evaluate teacher-selected or self-selected Internet resources in terms of their usefulness for research	I	R	M	M	M		M
		R1, R5, W5, W6	Use content specific technology tools (e.g. environmental probes, sensors, and measuring devices, simulations) to gather and analyze data.			O	I	R	M	M
		R1, W1, W5, W5, W6, W7	Use Web 2.0 tools (e.g. online discussions, blogs and wikis) to gather and share information			O	I	R	M	M
		R1, R2, R4, R6, W1, W5, W6	Identify and analyze the purpose of a media message (to inform, persuade and entertain)	I	R	M	M	M	M	M
		R1, R4, W5, W6	Identify probable types and locations of Web sites by examining their domain names (e.g., edu, com, org, gov, au).					I	R	R
		R4, R6, W1, W2, W5	Use appropriate academic language in online learning environments (e.g., post, thread, intranet, discussion forum, drop box, account, and password).				I	R	R	R
		RI 5, RI 7, W1, W2, W5, W6, W7	Write correct in-text citations and reference lists for text and images gathered from electronic sources.					I	R	R
		R1, W5, W6, W7	Use Web browsing to access information (e.g., enter a URL, access links, create bookmarks/favorites, print Web pages).					I	R	R
		R1, R5, W5, W6	Use and modify databases and spreadsheets to analyze data and propose solutions.							I
		R1, R7, W5, W7	Develop and use guidelines to evaluate the content, organization, design, use of citations, and presentation of technologically enhanced projects.							I

I = Introduce, R = Reinforce, M = Mastery (ability to teach others), O = Optional for grade level

Hoosick Falls K-6 Technology Scope and Sequence

Digital Literacy Categories		Alignment to NGLS	Skills	K	1	2	3	4	5	6
<u>Creative Communicator:</u> Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.	Communication & Collaboration		Work collaboratively online with other students under teacher supervision			I	R	M	M	M
		W5, W7	Use a variety of age-appropriate technologies (e.g. drawing program, presentation software) to communicate and exchange ideas		I	R	M	M	M	M
		R1, W7	Use teacher developed guidelines to evaluate multimedia presentations for organization, content, design, presentation and appropriateness of citations.			O	I	R	R	R
		W5, W6, SL	Use district approved Web 2.0 tools for communication, collaboration, and online discussions				O	I	R	R
		R1, R7, W5, W6, W7	Use a variety of media to present information for specific purposes (e.g., reports, research papers, presentations, newsletters, Web sites, podcasts, blogs), citing sources.						I	R
		W5, W6, SL2, SL5	Demonstrate how the use of various techniques and effect (e.g., editing, music, color, rhetorical devices) can be used to convey meaning in media.						I	R
<u>Global Collaborator:</u> Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.	Communication & Collaboration	R1, W6	Plan and implement a collaborative project with students in other classrooms and schools using telecommunications tools (e.g., e-mail, discussion forums, groupware, interactive Web sites, video-conferencing).							I
I = Introduce, R = Reinforce, M = Mastery (ability to teach others), O = Optional for grade level										

Secondary

Hoosick Falls 7-12 Technology Scope and Sequence

Digital Literacy Categories		Alignment to NGLS	Skills	7	8	9	10	11	12
Demonstrate proficiency in the use of computers and applications as well as an understanding of the concepts underlying the hardware, software and connectivity.	Basic Operations	Technology Operations & Concepts	Identify successful troubleshooting strategies for minor hardware and software issues/problems (e.g., “frozen screen”).	R	M	M	M	M	M
		Technology Operations & Concepts	Independently operate peripheral equipment (e.g., scanner, digital camera, camcorder), if available.	R	M	M	M	M	M
		Technology Operations & Concepts	Compress and expand large files	R	M	M	M	M	M
		Technology Operations & Concepts	Identify and use a variety of storage media (e.g., CDs, DVDs, flash drives, school servers, and online storage spaces), and provide a rationale for using a certain medium for a specific purpose.	R	M	M	M	M	M
		W6	Demonstrate automaticity in keyboarding skills by increasing accuracy and speed. (For students with disabilities, demonstrate alternate input techniques as appropriate.)	M	M	M	M	M	M
		Creativity & Innovation	Identify and assess the capabilities and limitations of emerging technologies.	R	M	M	M	M	M
	Word Processing	W 5, W 6, W 10	Demonstrate use of intermediate features in word processing application (e.g., tabs, indents, headers and footers, end notes, bullet and numbering, tables).	R	M	M	M	M	M
		W 5, W 6, W 10, SL 5	Apply advanced formatting and page layout features when appropriate (e.g., columns, templates, and styles) to improve the appearance of documents and materials.	R	M	M	M	M	M
		W.5, W6, W 10	Highlight text, copy and paste text	M	M	M	M	M	M
		W 5, W 6, W 10, SL 1	Use the Comment function in Review for peer editing of documents	R	M	M	M	M	M
		W 5, W 6, W 10, SL 1	Use the Track Changes feature in Review for peer editing of documents	O	I	R	M	M	M
I = Introduce, R = Reinforce, M = Mastery (ability to teach others), O = Optional for grade level									

Hoosick Falls 7-12 Technology Scope and Sequence

Digital Literacy Categories		Alignment to NGLS	Skills	7	8	9	10	11	12
Demonstrate proficiency in the use of computers and applications as well as an understanding of the concepts underlying hardware, software and connectivity.	Spreadsheet (Tables/Charts and Graphs)	F, SMP 5, RI 7	Use spreadsheets to calculate, graph, organize, and present data in a variety of real-world settings and choose the most appropriate type to represent given data.	R	M	M	M	M	M
		F, SMP 5, RI 7	Enter formulas and functions; use the auto-fill feature in a spreadsheet application.	R	M	M	M	M	M
		F, EE, SMP 5, RI 7	Use functions of a spreadsheet application (e.g., sort, filter, find).	R	M	M	M	M	M
		EE, SMP 6	Use various number formats (e.g. scientific notations, percentages, exponents) as appropriate.	R	M	M	M	M	M
		F, SMP 5, RI 7	Use advanced formatting features of a spreadsheet application (e.g., reposition columns and rows, add and name worksheets).	R	M	M	M	M	M
		SMP 5, RI 7	Differentiate between formulas with absolute and relative cell references.		I	R	M	M	M
		SMP 5, RI 7	Use multiple sheets within a workbook, and create links among worksheets to solve problems.	O	I	R	M	M	M
	SMP 5, RI 7	Import and export data between spreadsheets and other applications.	O	I	R	M	M	M	
	Mathematical Applications	G, SMP 5	Draw two and three dimensional geometric shapes using a variety of technology tools.	R	M	M	M	M	M
		EE, SMP 5	Use and interpret scientific notations using a variety of technology applications		I	R	M	M	M
EE, A, F, SP, SMP 5 W 8, SL 5		Highlight text, copy and paste text	R	M	M	M	M	M	

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Hoosick Falls 7-12 Technology Scope and Sequence

Digital Literacy Categories		Alignment to NGLS	Skills	7	8	9	10	11	12
Demonstrate the ability to use technology for research, critical thinking, decision making, communication, collaboration, creativity and innovation.	Research (Gathering and Using Information)	RI 5, RI 7	Identify probable types and locations of Web sites by examining their domain names (e.g., edu, com, org, gov, au).	R	M	M	M	M	M
		RI 5, RI 7	Use effective search strategies for locating and retrieving electronic information (e.g., using syntax and Boolean logic operators).	M	M	M	M	M	M
		RI 5, RI 7	Use search engines and online directories. Explain the differences among various search engines and how they rank results.	R	M	M	M	M	M
		RI 7	Use appropriate academic language in online learning environments (e.g., post, thread, intranet, discussion forum, drop box, account, and password).	R	M	M	M	M	M
		RI 5, RI 7, SMP 3	Explain how technology can support communication and collaboration, personal and professional productivity, and lifelong learning.	R	M	M	M	M	M
		RI 5, RI 7	Write correct in-text citations and reference lists for text and images gathered from electronic sources.	R	M	M	M	M	M
		RI 5, RI 7	Use Web browsing to access information (e.g., enter a URL, access links, create bookmarks/favorites, print Web pages).	R	M	M	M	M	M
		RI 7, RI 10, SMP 5	Use and modify databases and spreadsheets to analyze data and propose solutions.	R	M	M	M	M	M
		RI 7, SMP 3	Develop and use guidelines to evaluate the content, organization, design, use of citations, and presentation of technologically enhanced projects.	R	M	M	M	M	M
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Hoosick Falls 7-12 Technology Scope and Sequence

Digital Literacy Categories		Alignment to NGLS	Skills	7	8	9	10	11	12
The ability to use technology for research, critical thinking, decision making, communication, collaboration, creativity and innovation.	Research (Gathering and Using Information)	RI 5, RI 7	Identify probable types and locations of Web sites by examining their domain names (e.g., edu, com, org, gov, au).	R	M	M	M	M	M
		RI 5, RI 7	Use effective search strategies for locating and retrieving electronic information (e.g., using syntax and Boolean logic operators).	M	M	M	M	M	M
		RI 5, RI 7	Use search engines and online directories. Explain the differences among various search engines and how they rank results.	R	M	M	M	M	M
		RI 7	Use appropriate academic language in online learning environments (e.g., post, thread, intranet, discussion forum, drop box, account, and password).	R	M	M	M	M	M
		RI 5, RI 7, SMP 3	Explain how technology can support communication and collaboration, personal and professional productivity, and lifelong learning.	R	M	M	M	M	M
		RI 5, RI 7	Write correct in-text citations and reference lists for text and images gathered from electronic sources.	R	M	M	M	M	M
		RI 5, RI 7	Use Web browsing to access information (e.g., enter a URL, access links, create bookmarks/favorites, print Web pages).	R	M	M	M	M	M
		RI 7, RI 10, SMP 5	Use and modify databases and spreadsheets to analyze data and propose solutions.	R	M	M	M	M	M
		RI 7, SMP 3	Develop and use guidelines to evaluate the content, organization, design, use of citations, and presentation of technologically enhanced projects.	R	M	M	M	M	M
I = Introduce, R = Reinforce, M = Mastery (ability to teach others), O = Optional for grade level									

Hoosick Falls 7-12 Technology Scope and Sequence

Digital Literacy Categories		Alignment to NGLS	Skills	7	8	9	10	11	12
<p>Demonstrate the ability to use technology for research, critical thinking, decision making, communication, collaboration, creativity and innovation.</p>	<p>Communication and Collaboration</p>	<p>W 6, W 10, SL 5, SMP 5, RI 7</p>	<p>Use a variety of media to present information for specific purposes (e.g., reports, research papers, presentations, newsletters, Web sites, podcasts, blogs), citing sources.</p>	M	M	M	M	M	M
		<p>W6, W 10, SL 2, SL 5, SMP 3</p>	<p>Demonstrate how the use of various techniques and effect (e.g., editing, music, color, rhetorical devices) can be used to convey meaning in media.</p>	R	M	M	M	M	M
		<p>W6, W 10, SL 2, SL 5, SMP 3</p>	<p>Use a variety of district approved Web 2.0 tools (e.g., email discussion groups, blogs, etc.) to collaborate and communicate with peers, experts, and other audiences using appropriate academic language.</p>	M	M	M	M	M	M
		<p>W 6, W 10, SL 3</p>	<p>Use teacher developed guidelines to evaluate multimedia presentations for organization, content, design, presentation and appropriateness of citations.</p>	M	M	M	M	M	M
		<p>RI 6, RI 7, RI 9, SMP 3</p>	<p>Plan and implement a collaborative project with students in other classrooms and schools using telecommunications tools (e.g., e-mail, discussion forums, groupware, interactive Web sites, videoconferencing).</p>	R	M	M	M	M	M
<p>I = Introduce, R = Reinforce, M = Mastery (ability to teach others), O = Optional for grade level</p>									