

Manchester Public Schools



**Technology Literacy Skills
Curriculum**

Grade 3-5

Revised June 14, 2010

Manchester Public Schools

Technology Literacy Skills Curriculum

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Technology Literacy Skills Curriculum Grades 3 - 5

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Manchester Public Schools Mission Statement 2008-2012

Pride in Excellence

The mission of the Manchester Public Schools is to engage all students in the highest quality 21st century education preschool through graduation. District and school-wide practices will be consistently improved upon so that practices will not benefit some and disadvantage others. Through an active partnership with students, school personnel, families and community, the Manchester Public Schools will create safe, inclusive schools where equity is the norm and excellence is the goal.

Manchester Public Schools Educational Technology Vision Statement

From 2009 - 2012 District Educational Technology Plan
Adopted by the Board of Education May 26, 2009

Manchester Public Schools technology vision is to improve student performance by comprehensively integrating educational technology into all aspects of the educational process in order to improve students' achievement, develop students' technology literacy skills, increase student motivation, facilitate communication, and to effectively administer organizational operations. Implementation of the technology vision across the district and within each school is guided by dynamic, long-range, and systemic district-wide and site-based technology plans developed by educational technology advisory committees. Educators use technology to collect, analyze, and interpret achievement data to develop excellence in teaching and learning and to encourage learning from birth through graduation and beyond. Technology is used to facilitate communication and collaboration to achieve an active partnership of students, school personnel, families and the community. All students and educators should be technologically literate. All students, parents, and educators should have universal access to appropriate technology in school and/or at home. This educational technology vision is consistently and widely communicated to educators, parents, and the community.

The use of educational technology will improve student achievement, develops students' research and information fluency, and empower students by helping them to attain the knowledge, skills, and values needed for success.. Assistive technology will improve the lives of individuals with disabilities by supporting individual needs and respect for differences. Instruction will become more media-rich and visual. Communication and collaboration will be improved enabling all educators to become part of a global learning community. Distance and virtual learning will be used to connect students and educators to remote classrooms. Administrators will improve organizational efficiency and effectiveness. Parents will be able to access real-time information about their students. Town residents and the community will be provided with students who graduate to "become responsible citizens who will be successful in a rapidly changing world."

To achieve this educational technology vision, the district needs:

- Administrative leadership to support and organize the implementation of the technology plan.
- A commitment by the community to consistently provide the funding needed for technology infrastructure, personnel, digital resources, and staff development.
- On-going, consistent access to technology-related professional development.
- A high-speed, high-volume telecommunications network that connects all of the district's computers to each other and to the Internet.
- Safe and inclusive schools in which all classrooms are equipped with appropriate computer technology with the capacity for whole-class visual displays.
- Equitable access to appropriate technology for all students, parents, and educators in and outside of school.
- A complete and accurate inventory of the district's technology equipment and software to track and guide technology planning and replacement cycles.
- A current, standards-based, consistent K-12 Technology Literacy Curriculum to develop the skills needed to empower students by helping them to attain the knowledge, skill, and values needed for success and to support the comprehensive integration of technology into instruction.
- Sufficient technical support staff with the skills required to provide assistance for maintaining and using technology.
- Policies, procedures, standards, and accountability measures that support the safe and effective use of digital resources for learning and in district school operations.
- Integrated, interoperable data systems that automate the exchange, analysis, and communication of information to improve organizational effectiveness in achieving the district mission.

Material drawn from: "ISTE | National Educational Technology Standards." Ed. Lajeane Thomas. International Society for Instructional Technology. 10 Mar. 2009
<<http://www.iste.org/AM/Template.cfm?Section=NETS>>.

Technology Literacy Skills Curriculum

Manchester Public School's Four Technology Literacy Skills Strands

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Manchester's Technology Literacy Skills Curriculum is based on the following four Technology Literacy Skills Strands:

1. Technology Operations, Communication, and Presentation Skills
2. Research Skills
3. Data Analysis Skills
4. Safe and Responsible On-line Communication Skills

The technology skills in each strand are grouped by grade levels K-2, 3-5, 6-9, and 9-12. These strands define the technology skill objectives to be taught and assessed in the Manchester Public Schools. The *Technology Literacy Standards Crosswalk* (Appendix E) explains these four technology skill strands are derived from national and state educational technology standards.

This curriculum document provides a blueprint for embedding these Technology Literacy Skills into the instructional program of the Manchester Public Schools.

Developing Technology Literacy Skills Through Project-Based Learning

The National Education Technology Plan states that fully engaging students in school requires “*the chance to work on interesting and relevant projects, the use of technology environments and resources, and access to an extended social network of adults and peers who are supportive and safe*” (page 1). The National Education Technology Plan’s “*Learning Model for the 21st Century*” states students should “*work with others in project-based learning built around challenges with real-world relevance. Well-designed projects help students acquire knowledge in specific content areas and also support the development of more specialized adaptive expertise that can be applied in other areas*” (page 12). Thus, the Technology Literacy Skills Curriculum is delivered through projects related to the academic curriculum.

These projects must:

- provide students with the opportunity to develop and demonstrate the relevant technology literacy skills,
- be related to the academic curriculum,
- provide a relevant real-world problem or task,
- take a reasonable amount of instructional and evaluation time,
- elicit a student product that provides evidence of the application of the technology skills, and
- and be completed using available technology.

All of the technology skill objectives for each grade level group (K-2, 3-5, 6-9, 9-12) must be developed and assessed by at least one project within those grade levels. All of the instructional activities selected to be technology projects should also be part of the instructional program of the core curriculum. During each project, students receive direct instruction on the relevant technology literacy skills. The students then use technology as a tool during the project providing them with the opportunity to develop and demonstrate technology literacy skills. During the activity, teachers monitor the student's work through the use of “check points” and provide “scaffolding” for students needing assistance.

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Assessment of Technology Literacy Skills

Part D of the NCLB Law (Enhancing Education Through Technology) requires that districts ensure *"that every student is technologically literate by the time the student finishes the eighth grade"*. Districts must report the percent of grade eight students who are technologically literate on the District Technology Plan that is submitted to the State Department of Education. Therefore, districts have a duty to measure and record student's Technology Literacy Skills achievement.

Prior to starting each technology project, the students will receive a rubric that identifies the criteria that will be used to judge the quality of the student's project. These criteria will come directly from the project's goals and the Technology Literacy Skills objectives. While many of these projects will be done in groups, students will be individually assessed on their demonstration of the technology skills during the project. In the elementary and middle school grades, it is intended these projects will become "Assured Technology Experiences" that must be completed by all students. At the high school, it is intended that these projects will form the basis of a revised Technology Competency Graduation Requirement that must be completed by all students. In addition, the District will seek to align MHS's NEASC Learning Expectation for technology and School-wide Rubric for technology with the final version of the 9-12 Technology Literacy Skills. Therefore, it is intended that student's scores on these projects will be electronically recorded in the Student Information System (eSchool Plus).

Organization of the Technology Literacy Skills Curriculum in the Manchester Public Schools Curriculum Template

Essential Question: An important question that focuses students on the big ideas and core concepts the technology skills rather than the projects content.

Unit Goal: Relates to the essential question.

Performance Standard: The NETS•S and the Technology Literacy Skills Goals.

Expected Performance Assessment: How students will demonstrate achievement of the performance standards.

MPS Technology Literacy Strand: The title of the strand(s) addressed by the project.

CMT/CAPT Integration: Identifies any CMT or CAPT standards that are supported by the project.

Vocabulary: Words in the unit likely to be unfamiliar to the student.

Essential Question: Important questions that focus students on the technology unit's big ideas and core concepts.
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Unit Goal	Performance Standards	Expected Performance Assessments	Technology Literacy Strand CMT / CAPT Integration
Must relate to the essential question.	The NETS•S that correlate to the Technology Literacy Skills Strand The Technology Literacy Skills Goals	How students will demonstrate achievement of the performance standards.	MPS Technology Literacy Strand The technology literacy strand(s) addressed by the project. CMT / CAPT Integration CMT or CAPT standards that are supported by the project.

Vocabulary: An alphabetized list of words in the unit likely to be unfamiliar to students.

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Technology Literacy Skills Strand 1: Technology Operations, Communication, and Presentation Skills

In Grades K-2, students will:	In Grades 3-5, students will:	In Grades 6 – 8, students will:	In Grades 9-12, students will:
<ul style="list-style-type: none"> a. Demonstrate beginning steps in using available hardware and applications (e.g., turn on a computer, launch a program, use a pointing device such as a mouse or touch pad, and use volume control. b. Identify, locate, and use letters, numbers, and special keys (e.g., space bar, Shift, Delete, Backspace, enter/return, punctuation) on the keyboard. c. Use a word processing application to create, edit, print, and save simple documents. d. Resize fonts and manipulate font styles. e. Use painting and drawing applications to create and edit simple graphics. 	<ul style="list-style-type: none"> a. Demonstrate basic steps in using available hardware and applications (e.g., log into a computer, connect/disconnect peripherals, upload files from peripherals and/or network drives). b. Minimize, restore, or resize application windows, navigate between open windows or applications. c. Save, retrieve, rename, move, and delete electronic files. d. Navigate online by entering a URL using bookmarks, hyperlinks, forward, back, refresh, and home page. e. Demonstrate intermediate keyboarding skills and proper keyboarding techniques. f. Print a document with the appropriate page setup and orientation. g. Use menu/tool bar functions in a word processing. h. Use justification options to format text. i. Insert and size a graphic into a document. j. Proofread and edit writing using appropriate resources. k. Create a slide presentation including title slide, graphics, text, and documentation of sources to present research or convey an idea. l. Use rubrics to organize the content and design of presentations, appropriately citing sources. 	<ul style="list-style-type: none"> a. Use the Find or Search to locate files and folders. b. Identify successful troubleshooting strategies for minor hardware and software issues/problems (e.g., “frozen screen”). c. Open the printer queue to check on, restart, stop, or delete a print job. d. Use electronic Help to solve a problem or learn something new. e. Identify and employ multiple file formats (e.g., .doc, .jpg, .pdf, .rtf .txt) while working with documents. f. Use effective keyboard techniques. g. Demonstrate use of formatting features in word processing applications (e.g., tabs, indents, bullets and numbering, tables). h. Cut, copy, and paste between documents and between applications. i. Modify a digital image using flip, rotate, resize, and crop. j. Plan, design, and develop a multimedia product including graphing, text, sound, and digital photos to present research findings and creative ideas effectively, citing sources. 	<ul style="list-style-type: none"> a. Use online help and other support to assess and resolve problems. b. Apply styles and formats (e.g. footnotes/endnotes, borders, page breaks, tabs and margins, multiple columns, text boxes, section breaks, pagination, linking text blocks, span multiple columns to create a complex document). c. Use editing features appropriately (e.g., track changes, insert comments). d. Create, save, open, and import a word processing document in different file formats (e.g., RTF, HTML). e. Use technology authoring tools to effectively plan, design, and develop a multimedia product to present research findings or convey and idea while properly citing sources. f. Link information residing in different applications (e.g., linking a chart in a word-processing document to the spreadsheet where it was created). g. Save graphic images in multiple formats (e.g. .jpg, .tif, .gif).

Technology Literacy Skill Objective from previous grade levels are included and reinforced in subsequent grade levels.

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Technology Literacy Skills Strand 2: Research Skills

In Grades K-2, students will:	In Grades 3-5, students will:	In Grades 6 – 8, students will:	In Grades 9-12, students will:
<ul style="list-style-type: none"> a. Explain that the Internet links computers around the world, allowing people to access information and communicate. b. Use teacher-selected Internet resources to locate and gather information. 	<ul style="list-style-type: none"> a. Identify and use terms related to the Internet (e.g., Web browser, URL, keyword, World Wide Web, search engine, links). b. Use age-appropriate Internet-based search engines to locate and extract information, using appropriate key words. c. Perform basic searches on databases (e.g., library catalog, encyclopedia) to locate information. d. Analyze media messages and determine if their purpose is to inform, persuade, or entertain. e. Identify sponsored commercial links. 	<ul style="list-style-type: none"> a. Effectively search for the information needed, using effective search terms or key words; and revising search strategy as necessary. b. Evaluate the usefulness of information. c. Collect, organize, and analyze digital information from a variety of sources, while properly citing sources. 	<ul style="list-style-type: none"> a. Judge the credibility of an information source using established criteria. b. Demonstrate effective search strategies for locating and retrieving electronic information (e.g., using syntax and Boolean logic operators). c. Devise and demonstrate strategies for efficiently collecting and organizing information from electronic sources. d. Compare, evaluate, and select appropriate electronic database resources to locate specific information.

Technology Literacy Skill Objective from previous grade levels are included and reinforced in subsequent grade levels.

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Technology Literacy Skills Strand 3: Data Analysis Skills

In Grades K-2, students will:	In Grades 3-5, students will:	In Grades 6 – 8, students will:	In Grades 9-12, students will:
	<ul style="list-style-type: none"> a. Use a grade appropriate calculator and applications/ functions to solve mathematical problems. b. Use a simple computer graphing application to gather and analyze display data in bar graphs. c. Conduct simple searches of electronic databases such as a library catalog, periodical database, or electronic encyclopedia. 	<ul style="list-style-type: none"> Use a grade appropriate calculator and applications/ functions (e.g., basic operations, fraction-decimal conversion, percentage) to solve mathematical problems. b. Record the type of measurement and units when creating a data table. c. Use advanced graphing applications to convey numerical data. <i>d. Create a simple database by defining field formats and entering new records.</i> <i>e. Manipulate the data in a data base using ascending and descending sorts, simple queries, searches, or finds.</i> <i>f. Plan and produce database reports to organize and display information to answer a question or solve a problem.</i> <i>a. Explain and apply concepts related to spreadsheets (e.g., cell, column, row, values, labels, format, graph).</i> <i>b. Enter/edit data into an existing spreadsheets and perform calculations using simple formulas (+, -, *, /), observing the changes that occur.</i> <i>c. Examine patterns in the data using sort, filter and/or find.</i> <i>d. Use a spreadsheet to create a bar graph and explain how it visually represents patterns in the data.</i> <i>e. Use the set-print-area, page-setup, and print-preview commands to format printed data and graphs.</i> 	<ul style="list-style-type: none"> a. Use a graphing calculator and grade appropriate applications/ functions (e.g., graphing, statistics, equations, tables) to solve mathematical problems. b. Locate the independent data on the horizontal (x) axis and the dependent variable on the vertical (y) axis when creating graphs of data for independent and dependent variables. c. Label each axis with the number scale, units, and type of measurement when graphing quantitative data. d. Create a line graph when graphing data for a quantitative independent variable. e. Create a bar graph when graphing data for a descriptive or qualitative independent variable. f. Correctly interpret a line graph to describe any relationship between the variables. <i>g. Summarize data by calculating or reporting averages, sums, counts,</i> <i>h. Import and export data between spreadsheets and other applications.</i> <i>i. Create and apply formats to data (e.g. numeric, monetary, percent, values, dates, text).</i> <i>j. Manipulate the format of a spreadsheet by resizing rows and columns, changing borders or fonts.</i> <i>k. Use a spreadsheet to organize, calculate, graph, and present data to make predictions, solve problems, and draw conclusions.</i>

Technology Literacy Skill Objective from previous grade levels are included and reinforced in subsequent grade levels.

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Technology Literacy Skills Stand 4: Safe and responsible On-line Communication Skills

In Grades K-2, students will:	In Grades 3-5, students will:	In Grades 6 – 8, students will:	In Grades 9-12, students will:
<p>a. Follow the school rules for safe, respectful, and ethical use of technology.</p>	<p>a. Follow the school rules for safe, respectful, and ethical use of technology.</p> <p>b. Properly document sources of information obtained through electronic resources using acceptable formats.</p> <p>c. Explain ethical issues related to the privacy of information.</p> <p>d. Demonstrate compliance with school rules (Acceptable Use Policy) regarding responsible use of computers, networks, and electronic communication devices.</p> <p>e. Respect copyrights on text, images, music, and video.</p> <p>f. Identify cyber bullying and describe strategies to deal with such a situation.</p>	<p>a. Demonstrate compliance with school rules (Acceptable Use Policy) regarding responsible use of computers, networks, and electronic communication devices.</p> <p>b. Respect copyrighted materials (e.g., text, images, music, video) in student projects.</p> <p>c. Internalize ethical issues related to privacy, maintaining confidentiality, spam, viruses, hacking, and file sharing.</p> <p>d. Discuss the possible consequences of plagiarizing the work of others.</p> <p>e. Demonstrate proper ergonomics when using computers to prevent repetitive strain injuries.</p> <p>f. Provide examples of unsafe practices for sharing personal information via e-mail and the Internet.</p> <p>g. Identify cyber bullying and describe strategies to deal with such a situation.</p> <p>h. Use technological resources to plan, coordinate and complete group projects.</p> <p>i. Describe and apply appropriate practices to safely participate in online communities (e.g., chats, discussion groups, blogs, social networking sites, wikis).</p>	<p>a. Explain and demonstrate compliance with school rules (Acceptable Use Policy) regarding responsible use of computers, networks, and electronic communication devices.</p> <p>b. Apply strategies used for the safe and efficient use of computers (e.g. passwords; firewalls, software to protect against viruses, malware, and spyware; spam filters; popup blockers, browser security settings, security settings on social networking websites).</p> <p>c. Reinforce strategies to deal with cyber bullying.</p> <p>d. Use online tools (e.g., e-mail, online discussion forums, blogs, and wikis) to gather and share information collaboratively with other students.</p>

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Technology Literacy Skills Strands Summary for Grade 3-5

1. Operations, Communication, and Presentation	2. Research	3. Data Analysis	4. Safe and Responsible On-line Communication
In Grades 3-5, students will:	In Grades 3-5, students will:	In Grades 3-5, students will:	In Grades 3-5, students will:
<ul style="list-style-type: none"> a. Demonstrate basic steps in using available hardware and applications (e.g., log into a computer, connect/disconnect peripherals, upload files from peripherals and/or network drives). b. Minimize, restore, or resize application windows, navigate between open windows or applications. c. Save, retrieve, rename, move, and delete electronic files. d. Navigate online by entering a URL using bookmarks, hyperlinks, forward, back, refresh, and home page. e. Demonstrate intermediate keyboarding skills and proper keyboarding techniques. f. Print a document with the appropriate page setup and orientation. g. Use menu/tool bar functions in a word processing. h. Use justification options to format text. i. Insert and size a graphic into a document. j. Proofread and edit writing using appropriate resources. k. Create a slide presentation including title slide, graphics, text, and documentation of sources to present research or convey an idea. l. Use rubrics to organize the content and design of presentations, appropriately citing sources. 	<ul style="list-style-type: none"> a. Identify and use terms related to the Internet (e.g., Web browser, URL, keyword, World Wide Web, search engine, links). b. Use age-appropriate Internet-based search engines to locate and extract information, using appropriate key words. c. Perform basic searches on databases (e.g., library catalog, encyclopedia) to locate information. d. Analyze media messages and determine if their purpose is to inform, persuade, or entertain. e. Identify sponsored commercial links. 	<ul style="list-style-type: none"> a. Use a grade appropriate calculator and applications/ functions to solve mathematical problems. b. Use a simple computer graphing application to gather and analyze display data in bar graphs. c. Conduct simple searches of electronic databases such as a library catalog, periodical database, or electronic encyclopedia. 	<ul style="list-style-type: none"> a. Follow the school rules for safe, respectful, and ethical use of technology. b. Properly document sources of information obtained through electronic resources using acceptable formats. c. Explain ethical issues related to the privacy of information. d. Demonstrate compliance with school rules (Acceptable Use Policy) regarding responsible use of computers, networks, and electronic communication devices. e. Respect copyrights on text, images, music, and video. f. Identify cyber bullying and describe strategies to deal with such a situation.
<p>Units proposed to include the above technology literacy skills: Grade Three Language Arts – Writing in Social Studies Grade Four Language Arts – Writing in Social Studies Grade Five Language Arts – Writing in Social Studies</p>	<p>Units proposed to include the above technology literacy skills: Grade Three Language Arts – Online Research Grade Four Language Arts – Online Research</p>	<p>Units proposed to include the above technology literacy skills: Gr 4 Math: Probability and Statistics – Working with Data Gr 5 Math: Probability and Statistics – Working with Data</p>	<p>Units propose to include the above technology literacy skills: Grade Three - Library Media – Online Safety Grade Five - Library Media – Online Safety</p>

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COURSE: Grade Three

Unit: Language Arts – Writing in Social Studies

Duration: 3 weeks

Essential Question: How do we use technology to communicate information?

UNIT GOAL	PERFORMANCE STANDARDS	EXPECTED PERFORMANCE ASSESSMENTS	CMT / CAPT INTEGRATION MPS Technology Literacy Strand
<p>Students will use technology to write a paper on an assigned social studies topic.</p>	<p>NETS Standard: 1b: create original works as a means of personal or group expression. 2b. communicate information and ideas effectively to multiple audiences using a variety of media and formats. 6a. understand and use technology systems.</p> <p>MPS Technology Literacy Skills Strand 1: c. Save, retrieve, rename, move, and delete electronic files. e. Demonstrate intermediate keyboarding skills and proper keyboarding techniques. f. Print a document with the appropriate page setup and orientation. g. Use menu/tool bar functions in a word processing. h. Use justification options to format text. i. Insert and size a graphic into a document. j. Proofread and edit writing using appropriate resources. l. Use rubrics to organize the content and design of presentations, appropriately citing sources.</p>	<p>Students will demonstrate technology communication literacy skills while writing a paper on an assigned social studies topic.</p>	<p>Strand 1. Communication and Multimedia Presentation Skills: Use and operate technology to communicate effectively in writing (visual organizers, word processing, desktop publishing) and through multimedia presentations (presentation, digital imaging, and multi-media software)</p> <p>Language Arts CMT Framework: Students prepare, publish and/or present work appropriate to audience, purpose and task. f. Publish and/or present final products in a myriad of ways, including the use of the arts and technology. 4:3 students use standard English for composing and revising written text. b. Demonstrate proficient use of proper mechanics, usage and spelling skills.. c. Use resources for proofreading and editing.</p>

VOCABULARY: Commercial, Database, Encyclopedia, Entertain, Inform, Key Word, Library Catalog, Link, Media, Persuade, Search Engine, Server, Web Browser, World Wide Web,

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COURSE: Grade Three
Unit: Online Research

Duration: 4 weeks

Essential Question: How do we use technology to effectively conduct research?

UNIT GOAL	PERFORMANCE STANDARDS	EXPECTED PERFORMANCE ASSESSMENTS	CMT / CAPT INTEGRATION MPS Technology Literacy Strand
<p>Students will use technology to locate and evaluate the usefulness of information.</p>	<p>NETS Standards: 3b. locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media. 3c. evaluate and select information sources and digital tools based on the appropriateness to specific tasks.</p> <p>MPS Technology Literacy Skills Strand 2: a. Identify and use terms related to the Internet (e.g., Web browser, URL, keyword, World Wide Web, search engine, links). b. Use age-appropriate Internet-based search engines to locate and extract information, using appropriate key words. c. Perform basic searches on databases (e.g., library catalog, encyclopedia) to locate information. d. Analyze media messages and determine if their purpose is to inform, persuade, or entertain. e. Identify sponsored commercial links.</p>	<p>Students will... navigate online to locate and extract information, organize the information, and evaluate its usefulness to the topic being investigated.</p>	<p>Strand 2: Research Skills Use technology to locate information and evaluate its credibility and usefulness.</p> <p>Language Arts CMT Framework: Students prepare, publish and/or present work appropriate to audience, purpose and task. d. Research information from multiple sources for a specific purpose. e. Examine sources of information and determine validity.</p> <p>Science CMT Framework: B.INQ.5 Seek relevant information in books, magazines and electronic media. B.INQ.8 Search the Web and locate relevant science information.</p> <p>Manchester Grade 3 Social Studies Curriculum</p>

VOCABULARY:	Citation, Commercial, Database, Encyclopedia, Entertain, Inform, Key Word, Library Catalog, Link, Media, Persuade, Search Engine, Search Strategy, Server, Web Browser, World Wide Web,
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COURSE: Grade Three Library Media Services
Unit: On-line Safety

Duration: 1 week

Essential Question: How do students practice safe and responsible technology use?

UNIT GOAL	PERFORMANCE STANDARDS	EXPECTED PERFORMANCE ASSESSMENTS	CMT / CAPT INTEGRATION MPS Technology Literacy Strand
<p>Students will evaluate issues related to on-line safety, privacy and maintaining confidentiality</p>	<p>NETS Standard 5a. advocate and practice safe, legal, and responsible use of information and technology. 5c. demonstrate personal responsibility for lifelong learning.</p> <p>MPS Technology Literacy Skills Strand 4: Students will: a. Follow the school rules for safe, respectful, and ethical use of technology. b. Properly document sources of information obtained through electronic resources using acceptable formats. c. Explain ethical issues related to the privacy of information. d. Demonstrate compliance with school rules (Acceptable Use Policy) regarding responsible use of computers, networks, and electronic communication devices. e. Respect copyrights on text, images, music, and video. f. Identify cyber bullying and describe strategies to deal with such a situation.</p>	<p>Students will...</p> <ul style="list-style-type: none"> • Evaluate hypothetical scenarios involving issues related to on-line privacy and safety and explain the appropriate response. 	<p>Strand 4. Safe and Responsible On-line Communication Skills: Communicate and collaborate with other students on-line while applying their knowledge of safe and responsible online behavior, including cyber bullying, email, social networking, chat rooms, blogs, forums, and wikis</p>

VOCABULARY: Blog, Chat Room, Hacking, Instant Messaging, Plagiarism, Skype, Virus

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COURSE: Grade Four
Unit: Writing

Duration: 6 weeks

Essential Question: How do we use technology to communicate information?

UNIT GOAL	PERFORMANCE STANDARDS	EXPECTED PERFORMANCE ASSESSMENTS	CMT / CAPT INTEGRATION MPS Technology Literacy Strand
<p>Students will use technology to create a brochure on an assigned social studies topic.</p>	<p>NETS Standards: 2b. communicate information and ideas effectively to multiple audiences using a variety of media and formats. 1b: create original works as a means of personal or group expression</p> <p>MPS Technology Literacy Skills Strand 1: g. Demonstrate use of formatting features in word processing applications (e.g., tabs, indents, bullets and numbering, tables). h. Cut, copy, and paste between documents and between applications. i. Modify a digital image using flip, rotate, resize, and crop. j. Plan, design, and develop a multimedia product including graphing, text, sound, and digital photos to present research findings and creative ideas effectively, citing sources.</p>	<p>Students will demonstrate technology communication skills by creating a desktop publication on an assigned social studies topic.</p>	<p>Strand 1. Communication and Multimedia Presentation Skills: Use and operate technology to communicate effectively in writing (visual organizers, word processing, desktop publishing) and through multimedia presentations (presentation, digital imaging, and multi-media software)</p> <p>Language Arts CMT Framework: 3.2 Students prepare, publish and/or present work appropriate to audience, purpose and task. f. Publish and/or present final products in a myriad of ways, including the use of the arts and technology. 4:3 students use standard English for composing and revising written text. b. Demonstrate proficient use of proper mechanics, usage and spelling skills.. c. Use resources for proofreading and editing.</p> <p>Grade Four Social Studies Curriculum</p>

VOCABULARY: Bookmark, Browser, Clip Art, Graphic, Image, Import, Link, Menu Bar, Search Engine, Server, URL, Web Page

TECHNOLOGY LITERACY CURRICULUM

Rev. June 14, 2010

COURSE: Grade Four Language Arts
Unit: Online Research

Duration: 4 weeks

Essential Question: How do we use technology to effectively conduct research?

UNIT GOAL	PERFORMANCE STANDARDS	EXPECTED PERFORMANCE ASSESSMENTS	CMT / CAPT INTEGRATION MPS Technology Literacy Strand
<p>Students will use technology to effectively present ideas and communicate information on an assigned social studies topic.</p>	<p>NETS Standards: 3b. locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media. 3c. evaluate and select information sources and digital tools based on the appropriateness to specific tasks. 3d. process data and report results. 4c. collect and analyze data to identify solutions and/or make informed decisions.</p> <p>MPS Technology Literacy Skills Strand 2 a. Identify and use terms related to the Internet (e.g., Web browser, URL, keyword, World Wide Web, search engine, links). b. Use age-appropriate Internet-based search engines to locate and extract information, using appropriate key words. c. Perform basic searches on databases (e.g., library catalog, encyclopedia) to locate information. d. Analyze media messages and determine if their purpose is to inform, persuade, or entertain. e. Identify sponsored commercial links.</p> <p>MPS Technology Literacy Skills Strand 3: d. Conduct simple searches of electronic databases such as a library catalog, periodical database, or electronic encyclopedia.</p>	<p>Students will... create a presentation that includes text, graphics, and use of formatting styles to convey an idea based on the assigned social studies topic.</p>	<p>Strand 2: Research Skills Use technology to locate information and evaluate its credibility and usefulness.</p> <p>Strand 3. Data Analysis Skills: Use technology to organize, analyze, and display numerical data. (data tables, spreadsheets, data bases, graphing)</p> <p>Math CMT Framework: 24A. Solve logic, counting and classification problems involving the organization of data. 24B. Sort or classify objects, and draw logical conclusions from data including Venn diagrams and transitive reasoning questions.</p> <p>Language Arts CMT Framework: Students prepare, publish and/or present work appropriate to audience, purpose and task. d. Research information from multiple sources for a specific purpose. e. Examine sources of information and determine validity.</p> <p>Science CMT Framework: B.INQ.5 Seek relevant information in books, magazines and electronic media. B.INQ.8 Search the Web and locate relevant science information.</p> <p>Manchester Grade 3 Social Studies Curriculum</p>

VOCABULARY: Citation, Graphics, Key Word, Search Strategy

TECHNOLOGY LITERACY CURRICULUM

Rev. June 14, 2010

COURSE: Grade Four Mathematics
Unit: Probability and Statistics - Working with Data

Duration: 4 weeks

Essential Question: How do we use technology to evaluate numerical data?

UNIT GOAL	PERFORMANCE STANDARDS	EXPECTED PERFORMANCE ASSESSMENTS	CMT / CAPT INTEGRATION MPS Technology Literacy Strand
<p>Students will use technology to organize, analyze, and graph data.</p>	<p>NETS Standards: 1d. identify trends and forecast possibilities. 3d. process data and report results. 4c. collect and analyze data to identify solutions and/or make informed decisions.</p> <p>MPS Technology Literacy Strand 3: a. Use a grade appropriate calculator and applications/ functions to solve mathematical problems. b. Use a simple computer graphing application to gather and analyze display data in bar graphs. c. Conduct simple searches of electronic databases such as a library catalog, periodical database, or electronic encyclopedia.</p>	<p>Students will...</p> <ul style="list-style-type: none"> • Construct accurate graphical representations of data using spreadsheets. • Write appropriate conclusions about questions based on his or her analysis of the data. 	<p>Strand 3. Data Analysis Skills: Use technology to organize, analyze, and display numerical data. (data tables, spreadsheets, data bases, graphing)</p> <p>Math CMT Framework: 19A. Identify correct information from tables, bar graphs, pictographs and charts. 20A. Draw reasonable conclusions from data in tables, bar graphs, pictographs, circle graphs and charts. 24A. Solve logic, counting and classification problems involving the organization of data. 24B. Sort or classify objects, and draw logical conclusions from data including Venn diagrams and transitive reasoning questions.</p> <p>Science CMT Framework: B.INQ.6 Analyze, critique and communicate investigations using words, graphs and drawings</p>

VOCABULARY: Ascending, Average/Mean, Cell, Chart, Column, Cursor, Descending, Format, Graph, Row, Spreadsheet, Toolbar, Value

TECHNOLOGY LITERACY CURRICULUM

Rev. June 14, 2010

COURSE: Grade Five
Unit: Writing in Social Studies

Duration: 6 weeks

Essential Question: How do we use technology to communicate information?

UNIT GOAL	PERFORMANCE STANDARDS	EXPECTED PERFORMANCE ASSESSMENTS	CMT / CAPT INTEGRATION MPS Technology Literacy Strand
<p>Students will create a slide presentation on an assigned social studies topic that includes inserted graphics.</p>	<p>NETS Standards: 2b. communicate information and ideas effectively to multiple audiences using a variety of media and formats. 1b: create original works as a means of personal or group expression</p> <p>MPS Technology Literacy Skills Strand 1: g. Demonstrate use of formatting features in word processing applications (e.g., tabs, indents, bullets and numbering, tables). h. Cut, copy, and paste between documents and between applications. i. Modify a digital image using flip, rotate, resize, and crop. j. Plan, design, and develop a multimedia product including graphing, text, sound, and digital photos to present research findings and creative ideas effectively, citing sources.</p>	<p>Students will create a unique slide presentation on an assigned social studies topic that includes inserted graphics.</p>	<p>Strand 1. Communication and Multimedia Presentation Skills: Use and operate technology to communicate effectively in writing (visual organizers, word processing, desktop publishing) and through multimedia presentations (presentation, digital imaging, and multi-media software)</p> <p>Language Arts CMT GLES: 20. (Writing Process) Plan: gather and organize information from multiple sources to address a topic, e.g., electronic graphic organizer, comparison or classification chart. 21. (Writing Process) Draft: complete draft demonstrating connections among ideas, supported by information gathered during planning stage. 22. (Writing Process) Revise: rework writing several times based on different points of focus, e.g., first reading — add details for elaboration; second reading — delete sentences or phrases to achieve paragraph unity; third reading — reorganize ideas for meaning. 23. (Writing Process) Edit: use multiple resources, e.g., dictionary, glossary, thesaurus, for proofreading and editing. 24. (Publish/Present) Publish and present final products, using a variety of technology, e.g., word processor, spreadsheet, multimedia, slideshow, publication software. 25. (Publish/Present) Make purposeful decisions about format, graphics, illustrations, and other features, e.g., captioned photos, maps, based on audience.</p>

VOCABULARY: Bookmark, Browser, Clip Art, Graphic, Image, Import, Link, Menu Bar, Search Engine, Server, URL, Web Page

TECHNOLOGY LITERACY CURRICULUM

Rev. June 14, 2010

COURSE: Grade Five Mathematics
Unit: Probability and Statistics - Working with Data

Duration: 4 weeks

Essential Question: How do we use technology to evaluate numerical data?

UNIT GOAL	PERFORMANCE STANDARDS	EXPECTED PERFORMANCE ASSESSMENTS	CMT / CAPT INTEGRATION MPS Technology Literacy Strand
<p>Students will use technology to organize, analyze, and graph data.</p>	<p>NETS Standards: 1d. identify trends and forecast possibilities. 3d. process data and report results. 4c. collect and analyze data to identify solutions and/or make informed decisions.</p> <p>MPS Technology Literacy Strand 3: a. Use a grade appropriate calculator and applications/ functions to solve mathematical problems. b. Use a simple computer graphing application to gather and analyze display data in bar graphs. c. Conduct simple searches of electronic databases such as a library catalog, periodical database, or electronic encyclopedia.</p>	<p>Students will...</p> <ul style="list-style-type: none"> • Construct accurate graphical representations of data using spreadsheets. • Write appropriate conclusions about questions based on his or her analysis of the data. 	<p>Strand 3. Data Analysis Skills: Use technology to organize, analyze, and display numerical data. (data tables, spreadsheets, data bases, graphing)</p> <p>Math CMT Framework: 19A. Identify correct information from tables, bar graphs, pictographs and charts. 20A. Draw reasonable conclusions from data in tables, bar graphs, pictographs, circle graphs and charts. 24A. Solve logic, counting and classification problems involving the organization of data. 24B. Sort or classify objects, and draw logical conclusions from data including Venn diagrams and transitive reasoning questions.</p> <p>Science CMT Framework: B.INQ.6 Analyze, critique and communicate investigations using words, graphs and drawings</p>

VOCABULARY: Ascending, Average/Mean, Cell, Chart, Column, Cursor, Descending, Format, Graph, Row, Spreadsheet, Toolbar, Value

COURSE: Grade Five Library Media Services
Unit: On-line Safety

Duration: 1 week

Essential Question: How do students practice safe and responsible technology use?

UNIT	PERFORMANCE	EXPECTED	CMT / CAPT INTEGRATION
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Integrate culturally relevant media and materials.

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TECHNOLOGY LITERACY CURRICULUM

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GOAL	STANDARDS	PERFORMANCE ASSESSMENTS	MPS Technology Literacy Strand
Students will evaluate issues related to on-line safety, privacy and maintaining confidentiality	<p>NETS Standard</p> <p>5a. advocate and practice safe, legal, and responsible use of information and technology.</p> <p>5c. demonstrate personal responsibility for lifelong learning.</p> <p>MPS Technology Literacy Skills Strand 4:</p> <p>Students will:</p> <p>a. Follow the school rules for safe, respectful, and ethical use of technology.</p> <p>b. Properly document sources of information obtained through electronic resources using acceptable formats.</p> <p>c. Explain ethical issues related to the privacy of information.</p> <p>d. Demonstrate compliance with school rules (Acceptable Use Policy) regarding responsible use of computers, networks, and electronic communication devices.</p> <p>e. Respect copyrights on text, images, music, and video.</p> <p>f. Identify cyber bullying and describe strategies to deal with such a situation.</p>	<p>Students will...</p> <ul style="list-style-type: none"> • Evaluate hypothetical scenarios involving issues related to on-line privacy and safety and explain the appropriate response. 	<p>Strand 4. Safe and Responsible On-line Communication Skills: Communicate and collaborate with other students on-line while applying their knowledge of safe and responsible online behavior, including cyber bullying, email, social networking, chat rooms, blogs, forums, and wikis</p>

VOCABULARY:	Blog, Cyber-bullying, Chat Room, Password, Personal Information, Social Networking,
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