

Teacher / Library Media Specialist Points of Collaboration
Leatherstocking Library Information Literacy Skills Scope and Sequence

Curriculum Area: Math / Science / Technology - Elementary	Library/Information Skill Learner Outcome	Collaborative Lesson Ideas with Library Media Specialist
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Standard 1: Analysis, Inquiry, and Design

Students will use mathematical analysis, scientific enquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.

MATHEMATICAL ANALYSIS

<p>MST1.E. MA1A:</p> <p>Students use special mathematical notation and symbolism to communicate in mathematics and to compare and describe quantities, express relationships and relate mathematics to their immediate environment</p>	<p>#2 Know the library rules and procedures.</p> <p>#3 Know the layout and organization of the library</p> <p>#5 Use effective listening and viewing skills</p> <p>#15 Locate books on the shelves by using call numbers</p>	<p>LMS instructs students to monitor the amount of resources (subtracting returns /adding materials borrowed) they can take at each grade level.</p> <p>LMS helps students participate in 100 day celebrations, with student book counts per class</p> <p>LMS uses counting books for reading aloud to Primary students.</p> <p>LMS instructs all students in the Dewey Decimal System arrangement of books according to their readiness.</p>
<p>MST1 E. MA2A:</p> <p>Use simple logical reasoning to develop conclusions, recognizing that patterns and relationships present in the environment assist them in reaching these conclusions</p>	<p>#3 Know the layout and organization of the library</p> <p>#5 Use effective listening and viewing skills</p> <p>#15 Locate books on the shelves by using call numbers</p> <p>#17-Use the card/electronic catalog to locate materials on particular subjects.</p> <p>#18 Use the card/electronic catalog to locate materials by title, author, subject, and /or series.</p> <p>#20 Locate and use simple dictionaries, thesauri, and encyclopedias</p> <p>#21 Identify and use electronic sources</p> <p>#36 Use magazine indices to retrieve articles for pleasure and information (print and non-print)</p>	<p>LMS collaborates with classroom teacher to provide additional experiences with picture books that have predictable patterns.</p> <p>LMS will assist the Primary students in using alphabetical and numerical order, while searching for books in the library.</p> <p>LMS instruct students in the search methods needed to use the Electronic Catalog.</p> <p>LMS instructs students in the use of print reference sources that use sequential patterns in indexes and guided research.</p>
<p>MST1 E. MA3A</p> <p>Explore and solve problems generated from school, home, and community situations, using concrete objects or manipulative materials when possible</p>	<p>#14 Know that the reference section is in the library</p> <p>#15 Locate books on the shelves by using call numbers</p> <p>#17-Use the card/electronic catalog to locate materials on particular subjects.</p> <p>#18 Use the card/electronic catalog to locate materials by title, author, subject, and /or series.</p> <p>#20 Locate and use simple dictionaries, thesauri, and encyclopedias</p> <p>#21 Identify and use electronic sources</p>	<p>LMS will emphasize the similarity of techniques used in finding materials in the school and public libraries.</p> <p>LMS provides assistance to classroom teachers and students in the use of on-line and database resources.</p> <p>LMS instructs students in the methods common to searching in print and electronic sources.</p>

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SCIENTIFIC INQUIRY		
<p>MST1 E. SI1A</p> <p>Ask “why” questions in attempts to seek greater understanding concerning objects and events they have observed heard about.</p>	<p>#5 Use effective listening and viewing skills</p> <p>#7 Develop retelling skills</p> <p>#13-Differentiate between fiction and non-fiction books</p> <p>#14 Know that the reference section is in the library</p> <p>#15 Locate books on the shelves by using call numbers</p> <p>#17-Use the card/electronic catalog to locate materials on particular subjects.</p> <p>#20 Locate and use simple dictionaries, thesauri, and encyclopedias</p> <p>#21 Identify and use electronic sources</p> <p>#23 Use pre-selected bookmarked sites on the Internet</p> <p>#27 Select appropriate resources for reference information.</p> <p>28 Use primary and secondary information sources</p> <p>#29 Be able to paraphrase information</p>	<p>LMS uses trade books, magazines, and newspapers on various topics to extend the learning in the classroom.</p> <p>LMS designs learning experiences that coordinate with topics in the classroom and encourage greater understanding of historical and current events.</p> <p>LMS guides research by individuals and classes to pursue the “why” questions that arise in classroom discussions.</p>
<p>MST1 E. SI1B</p> <p>Question the explanations they hear from others and read about, seeking clarification and comparing them with their own observations and understandings</p>	<p>#22 Comply with the district’s Acceptable Use Policy for Internet</p> <p>#23 Use pre-selected bookmarked sites on the Internet</p> <p>#28 Use primary and secondary information sources</p> <p>#32 Use specialized encyclopedias and subject dictionaries (print and non-print)</p> <p>#35 Understand plagiarism and the need for documentation when doing a research project.</p> <p>#36 Use magazine indices to retrieve articles for pleasure and information (print and non-print)</p> <p>#38 Use appropriate search engines, metasearch engines, and directories to access information on the Internet</p> <p>#44 Use cross references and/or related terms to access additional information</p> <p>#45 Use the electronic catalog to locate materials using keywords, subject headings and Boolean searching.</p>	<p>LMS gathers a wide array of print and electronic resources on topics studied in the classroom.</p> <p>LMS extends and refines lessons started in the classroom using additional print, electronic and audio-visual resources.</p> <p>LMS provides students and teachers access to primary source documents.</p> <p>LMS teaches students how to evaluate the validity of information found in electronic sources</p>

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<p>MST1 E.C SI 1C Develop relationships among observations to construct descriptions of objects and events and to form their own tentative explanations of what they have observed use of what they have observed</p>	<p>#5 Use effective listening and viewing skills #7 Develop retelling skills</p> <p>#25-Be able to take simple notes. #28 Use primary and secondary information sources</p> <p>#29 Be able to paraphrase information #32 Use specialized encyclopedias and subject dictionaries (print and non-print) #47 Prepare a works cited page using different types of material (Internet, etc.), using a standard District format such as APA or MLA</p>	<p>LMS will use literature rich in descriptive language to help students have a better understanding of the objects and events they are investigating LMS provides guidance to students to research a topic, event or object, in detail, with the latest resources.</p> <p>LMS consistently emphasizes the importance of documenting the sources of information.</p>
<p>MST1 E. SI 2A Develop written plans for exploring phenomena or for evaluating explanations guided by questions or proposed explanations they have helped formulate</p>	<p>#5 Use effective listening and viewing skills</p> <p>#14 Know what the reference section is in the library #17-Use the card/electronic catalog to locate materials on particular subjects. #25-Be able to take simple notes. #28 Use primary and secondary information sources #29 Be able to paraphrase information #32 Use specialized encyclopedias and subject dictionaries (print and non-print) #47 Prepare a works cited page using different types of material (Internet, etc.), using a standard District format such as APA or MLA</p>	<p>LMS instructs students and assists teachers in the use of templates (such as graphic organizers, databases, and spread sheets)</p> <p>LMS seeks published examples of successful formats for exploring phenomena and locates them in convenient place for student and teacher access. (e.g. Web sites in a common folder, Reference sources in a classroom)</p>
<p>MST1 E. SI 2B Share their research plans with others and revise them based on their suggestions</p>	<p>#5 Use effective listening and viewing skills</p> <p>#25-Be able to take simple notes. #28 Use primary and secondary information sources</p> <p>#29 Be able to paraphrase information</p>	<p>LMS collaborates with classroom teacher to provide historic examples of work by accomplished adults that have undergone revision and change. (e.g. The changes made to Arthur in Marc Brown's children's classic)</p> <p>LMS models what the sharing and revision looks like, before student implementation.</p> <p>LMS invites authors to demonstrate to students the many revisions needed before a product is ready for publication</p>
<p>MST1 E. SI 2C Carry out their plans for exploring phenomena through direct observation and through the use of simple instruments that permit measurements of quantities</p>	<p>#5 Use effective listening and viewing skills</p> <p>#25-Be able to take simple notes. #28 Use primary and secondary information sources</p> <p>#29 Be able to paraphrase information</p>	<p>LMS provides opportunities for students to use graphs to assess reading patterns and habits.</p> <p>LMS engages students in a reading program such as Accelerated Reader which measures reading accomplishments and progress with statistical reports</p> <p>LMS provides displays (e.g. growing plants, aquariums, terrariums etc.) in a central location, that can be observed and measured by diverse groups of students</p>

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<p>MST1 E. SI 3A</p> <p>Organize observations and measurements of objects and events through classification and the preparation of simple charts and tables</p> <p>MST1 E. SI 3B</p> <p>Interpret organized observations and measurements, recognizing simple patterns, sequences, and relationships</p>	<p>#5 Use effective listening and viewing skills</p> <p>#25-Be able to take simple notes.</p> <p>#28 Use primary and secondary information sources</p> <p>#29 Be able to paraphrase information</p> <p>#5 Use effective listening and viewing skills</p> <p>#25-Be able to take simple notes.</p> <p>#28 Use primary and secondary information sources</p> <p>#29 Be able to paraphrase information</p>	<p>LMS collaborates with classroom teacher to introduce, review or implement the use of simple charts and tables in electronic or print format.</p> <p>LMS accesses examples of classification and sources of templates for student or teacher use.</p> <p>LMS arranges for an individual, or class to keep a record of reading choices for a specific time period and submit a chart or narrative of observations.</p> <p>LMS creates various reports available in the automated operating system to measure trends in student and staff borrowing. (e.g. Baseball books were borrowed more during the World Series)</p>
<p>MST1 E. SI 3C</p> <p>Share their findings with others and actively seek their interpretations and ideas</p>	<p>#7 Develop retelling skills</p> <p>#5 Use effective listening and viewing skills</p> <p>#25-Be able to take simple notes.</p> <p>#28 Use primary and secondary information sources</p> <p>#29 Be able to paraphrase information</p>	<p>LMS collaborates with the classroom teacher to have the students present their findings in print, power point, or as a document available to others in a common folder on-line.</p> <p>LMS plans for students to interpret findings using a reader's theater format.</p>
<p>MST1 E. SI 3D</p> <p>Adjust their explanations and understandings of objects and events based on their new findings and new ideas.</p>	<p>#7 Develop retelling skills</p> <p>#5 Use effective listening and viewing skills</p> <p>#25-Be able to take simple notes.</p> <p>#28 Use primary and secondary information sources</p> <p>#29 Be able to paraphrase information</p>	<p>LMS finds examples to share with students of written products, or artwork has undergone revision.</p> <p>LMS assists the classroom teacher in demonstrating the editing and documentation process</p>
ENGINEERING DESIGN		
<p>MST1 E. ED1A</p> <p>Describe objects, imaginary or real, that might be modeled or made differently and suggest ways in which objects can be changed, fixed, or improved.</p>	<p>#5 Use effective listening and viewing skills</p> <p>#7 Develop retelling skills</p> <p>#13-Differentiate between fiction and non-fiction books</p> <p>#25-Be able to take simple notes.</p> <p>#26- Be able to cite sources</p> <p>#27 Select appropriate resources for reference information.</p> <p>#28 Use primary and secondary information sources</p> <p>#29 Be able to paraphrase information</p> <p>#31 Prepare a brief works cited page</p> <p>#32 Use specialized encyclopedias and subject dictionaries (print and non-print)</p> <p>#33 Search appropriate commercial electronic and online resources to access information</p>	<p>LMS collaborates with classroom teacher to plan a unit of study on inventions, culminating in the creation of a model of an original invention for display in the Library Media Center</p> <p>LMS encourages primary students to use their imagination by storytelling with found objects.</p>

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<p>MST1 E. ED1B Investigate prior solutions and ideas from books, magazines, family, friends, neighbors, and community members</p>	<p>#5 Use effective listening and viewing skills #25-Be able to take simple notes. #26- Be able to cite sources #27 Select appropriate resources for reference information. #28 Use primary and secondary information sources #29 Be able to paraphrase information #31 Prepare a brief works cited page #32 Use specialized encyclopedias and subject dictionaries (print and non-print) #33 Search appropriate commercial electronic and online resources to access information</p>	<p>LMS plans a research project focused on the design of specific objects with the classroom teacher who will integrate technology, traditional print resources and personal interviews.</p>
<p>MST1 E. ED1C Generate ideas for possible solutions, individually and through group activity; apply age-appropriate mathematics and science skills; evaluate the ideas and determine the best solution and explain reasons for the choices</p>	<p>#17-Use the card/electronic catalog to locate materials on particular subjects. #20 Locate and use simple dictionaries, thesauri, and encyclopedias #21 Identify and use electronic sources #23 Use pre-selected bookmarked sites on the Internet #25-Be able to take simple notes. #26- Be able to cite sources #27 Select appropriate resources for reference information. #28 Use primary and secondary information sources #29 Be able to paraphrase information #39 Use a search strategy to access and retrieve information #40 Analyze and synthesize the information gathered. databases</p>	<p>LMS introduces a graphic organizer to students, instructs them in its use as they plan, evaluate and explain their projects to classmates, or instructor. LMS collaborates with the classroom teacher to design a timeline to document student progress during their project.</p>
<p>MST1 E. ED1D Plan and build, under supervision, a model of the solution using familiar materials, processes, and hand tools</p>	<p>#5 Use effective listening and viewing skills #25-Be able to take simple notes. #27 Select appropriate resources for reference information. #28 Use primary and secondary information sources</p>	<p>LMS guides student research to find building plans for individual projects, or visual representations suitable to use as examples. LMS provides ideas for objects (such as bookends and book shelves) that would be used in the Library Media Center</p>

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Standard 2: Information Systems

Students will access, generate, process, and transfer information using appropriate technologies.

INFORMATION SYSTEMS		
<p>MST2 E. IS1A</p> <p>Use a variety of equipment and software packages to enter, process, display, and communicate information in different forms using text, tables pictures, and sound</p>	<p>#18 Use the card/electronic catalog to locate materials by title, author, subject, and /or series.</p> <p>#22 Comply with the district's Acceptable Use Policy for Internet</p> <p>#23 Use pre-selected bookmarked sites on the Internet</p> <p>32 Use specialized encyclopedias and subject dictionaries (print and non-print)</p> <p>#33 Search appropriate commercial electronic and online resources to access information</p> <p>#36 Use magazine indices to retrieve articles for pleasure and information (print and non-print)</p> <p>#37 Use multimedia software to produce presentations</p> <p>#38 Use appropriate search engines, metasearch engines, and directories to access information on the Internet</p> <p>#39 Use a search strategy to access and retrieve information</p> <p>#40 Analyze and synthesize the information gathered.</p> <p>#41 Use an electronic catalog to locate and borrow resources through interlibrary loan</p> <p>#46 Use advanced features on electronic databases</p>	<p>LMS instructs all students (according to their readiness level) to use the Online Public Access Catalog to the collection.</p> <p>LMS integrates the use of on-line databases with classroom research initiatives.</p> <p>LMS collaborates with classroom teachers to have students do Power Point presentations in the Library Media Center, as their final product</p> <p>LMS works with classroom teachers to present plays in the Library Media Center based on favorite books or rhymes and using technology for pictures, sound or special effects.</p>
<p>MST2 E. IS1B</p> <p>Telecommunicate a message to a distant location with teacher help</p>	<p>#5 Use effective listening and viewing skills</p> <p>#6 Recognize the parts of a book</p> <p>#7 Develop retelling skills</p> <p>#9-Know about authors and illustrators.</p> <p>#11 Recognize award-winning picture books,</p> <p>#19-Locate and use the biography section</p> <p>#21 Identify and use electronic sources</p> <p>#22 Comply with the district's Acceptable Use Policy for Internet</p> <p>#23 Use pre-selected bookmarked sites on the Internet</p>	<p>LMS assists students in communicating with authors or illustrators by e-mail.</p> <p>LMS oversees student communication by e-mail to pen pals around the world.</p> <p>LMS arranges for question and answer exchange about cultural differences between elementary students and a college student studying abroad.</p>
<p>MST2 E. IS1C</p> <p>Access needed information from printed media, electronic databases and community resources</p>	<p>#4-Know how to borrow and care for library materials</p> <p>#5 Use effective listening and viewing skills</p> <p>#14 Know what the reference section is in the library</p> <p>#15 Locate books on the shelves by using call numbers</p> <p>#18 Use the card/electronic catalog to locate materials by title, author, subject, and /or series.</p> <p>#20 Locate and use simple dictionaries, thesauri, and encyclopedias</p> <p>#21 Identify and use electronic sources</p> <p>#24 Know that Interlibrary Loan is available and follow appropriate procedures</p> <p>#33 Search appropriate commercial electronic and online resources to access information</p>	<p>LMS supervises student use of the internet and teaches specific ways students can evaluate the information found there.</p> <p>LMS instructs students and staff on the ways of searching specific databases.</p> <p>LMS establishes a link with local public libraries and museums to provide students with shared resources, and information.</p> <p>LMS invites speakers and arranges for presentations that enhance the curriculum.</p> <p>LMS presents students with Virtual Field Trip opportunities via available technology.</p>

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MST2 E. IS2A Describe the uses of information systems in homes, schools, and businesses	#1-Exhibit proper library media center behavior #3 Know the layout and organization of the library #5 Use effective listening and viewing skills	LMS conduct building “tours” with primary students to point out how technology is used throughout the school building. LMS selects up-to-date video presentations which show information LMS arranges for field trip with students to tour a college or public library or a large bookstore to observe how each depends on an information system.
MST2 E. IS2B Understand that computers are used to store personal information	#22 Comply with the district’s Acceptable Use Policy for Internet #31 Prepare a brief works cited page #35 Understand plagiarism and the need for documentation when doing a research project.	LMS participates in a yearly review of the Acceptable Use Policy with students LMS integrates the concept of file privacy whenever instruction involves logging in to use a program.
MST2 E.IS2C Demonstrate ability to evaluate information	#22 Comply with the district’s Acceptable Use Policy for Internet #26- Be able to cite sources #28 Use primary and secondary information sources #33 Search appropriate commercial electronic and online resources to access information #35 Understand plagiarism and the need for documentation when doing a research project. #39 Use a search strategy to access and retrieve information #40 Analyze and synthesize the information gathered. #45 Use the electronic catalog to locate materials using keywords, subject headings and Boolean searching. #46 Use advanced features on electronic databases	LMS provides evaluation criteria to the assist in the creation of rubrics for evaluating information. LMS collaborates with the classroom teacher to conduct a "Cyber Sleuth” activity , that requires students to research a curriculum related topic and evaluate the web sites, using a teacher/LMS designed rubric. LMS instructs students in the use of print and electronic reference sources and provides curriculum driven topics for research. LMS plans learning experiences that require students to compare and contrast information and the sources they used to obtain it.
MST2 E. IS 3A Describe the uses of information systems in homes and schools	#18 Use the card/electronic catalog to locate materials by title, author, subject, and /or series. #22 Comply with the district’s Acceptable Use Policy for Internet #23 Use pre-selected bookmarked sites on the Internet #24 Know that Interlibrary Loan is available and follow appropriate procedures #27 Select appropriate resources for reference information. #33 Search appropriate commercial electronic and online resources to access information #37 Use multimedia software to produce presentations	LMS surveys students access to, and use of, technology at home and creates a report or graph. LMS arranges for students to e-mail other students in different states to find out what information systems they use.
MST2 E.IS3B Demonstrate ability to evaluate information critically	#38 Use appropriate search engines, metasearch engines, and directories to access information on the Internet #39 Use a search strategy to access and retrieve information #40 Analyze and synthesize the information gathered.	LMS provides a rubric checklist to students to use for evaluation of information. LMS selects specific examples of contrasting types of information, for presentation on critical evaluation.

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Standard 3: Mathematics

Students will understand mathematics and become mathematically confident by communicating and reasoning mathematically, by applying mathematics in real-world settings, and by solving problems through the integrated study of number systems, geometry, algebra

MATHEMATICAL REASONING

<p>MST3 E. MR1A Use models, facts, and relationships to draw conclusions about mathematics and explain their thinking</p>	<p>#3 Know the layout and organization of the library #5 Use effective listening and viewing skills #13-Differentiate between fiction and non-fiction books #14 Know what the reference section is in the library #15 Locate books on the shelves by using call numbers</p>	<p>LMS introduces classes (by means of a “book talk”) to books in the collection that demonstrate the use of models, facts and relationships in math.</p>
<p>MST3 E. MR1B Use patterns and relationships to analyze mathematical situations</p>	<p>#2 Know the library rules and procedures. #5 Use effective listening and viewing skills</p>	<p>LMS establishes a guide for student book borrowing based on grade level. (number of books allowed, increases as student progresses K-6)</p>
<p>MST3 E. MR1D Use logical reasoning to reach simple conclusions</p>	<p>#2 Know the library rules and procedures. #5 Use effective listening and viewing skills</p>	<p>LMS emphasizes the use of addition and subtraction for primary students to keep aware of the total number of books they have borrowed</p>

NUMBER & NUMERATION

<p>MST3 E. NN1A Use whole numbers and fractions to identify locations, quantify groups of objects, and measure distances</p>	<p>#1-Exhibit proper library media center behavior #2 Know the library rules and procedures. #5 Use effective listening and viewing skills #7Develop retelling skills #29 Be able to paraphrase information</p>	<p>LMS shares a literature selection with students and follows with a hands on activity which requires the use of whole numbers fractions or measurement (e.g. Wright Brothers biography--measure the distance of first flight, make and measure the flight distance of paper airplanes)</p>
<p>MST3 E. NN1B Use concrete materials to model numbers and number relationships for whole numbers and common fractions, including decimal fractions</p>	<p>#1-Exhibit proper library media center behavior #5 Use effective listening and viewing skills #7 Develop retelling skills #13-Differentiate between fiction and non-fiction books #14 Know what the reference section is in the library #15 Locate books on the shelves by using call numbers #17-Use the card/electronic catalog to locate materials on particular subjects.</p>	<p>LMS selects books such as <u>Apple Fractions</u>, <u>M&M Counting Book</u> and <u>How Much is a Million?</u> to visually demonstrate these concepts.</p>

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MST3 E. NN1C Relate counting to grouping and to place-value	#1-Exhibit proper library media center behavior #5 Use effective listening and viewing skills #7 Develop retelling skills #13-Differentiate between fiction and non-fiction books	LMS uses examples relating to the Dewey Decimal System of arranging books to reinforce knowledge of counting and place value
MST3 E. NN1D Demonstrate the concept of percent through problems related to actual situations	#1-Exhibit proper library media center behavior #5 Use effective listening and viewing skills #7 Develop retelling skills	LMS demonstrates how the numbers of books borrowed, types of materials purchased, borrowing preferences of specific groups, and other statistics generated in the library, can be represented by percentages..

OPERATIONS

MST3 E. OP1A Add, subtract, multiply, and divide whole numbers	#1-Exhibit proper library media center behavior #2 Know the library rules and procedures. #3 Know the layout and organization of the library #4-Know how to borrow and care for library materials #5 Use effective listening and viewing skills #6 Recognize the parts of a book #7 Develop retelling skills	LMS utilizes the class seating arrangements (e.g. five students seated at each of five tables) for on-the-spot practice in addition, subtraction, multiplication and division. LMS selects picture books for use in the Library Media Center or classroom that have a mathematical theme. (e.g. <u>Divide and Ride</u>)
MST3 E. OP1C Know single digit addition, subtraction, multiplication, and division facts	#1-Exhibit proper library media center behavior #5 Use effective listening and viewing skills #7 Develop retelling skills	LMS provides additional practice in a single digit mathematical process by selecting a picture book which has a math theme appropriate for question and answer activity.

MODELING/ MULTIPLE REPRESENTATION

MST3 E. MM1A Use concrete materials to model spatial relationships	#2 Know the library rules and procedures. #3 Know the layout and organization of the library #5 Use effective listening and viewing skills #13-Differentiate between fiction and non-fiction books	LMS uses the globe in addition to maps in all lessons using the atlas. LMS uses floor plan of the Library Media Center to familiarize students with location of resources.
MST3 E. MM1B Construct tables, charts and graphs to display and analyze real-world data	#14 Know what the reference section is in the library #20 Locate and use simple dictionaries, thesauri, and encyclopedias #21 Identify and use electronic sources	LMS collaborates with classroom teachers to create tables, charts and graphs to present student research LMS provides on-line and print examples of graphs, charts and tables.

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MST3 E. MM1C Use multiple representations (simulations, manipulative materials, pictures and diagrams) as tools to explain the operation of everyday procedures	#1-Exhibit proper library media center behavior #2 Know the library rules and procedures. #3 Know the layout and organization of the library #4-Know how to borrow and care for library materials #5 Use effective listening and viewing skills	LMS incorporates demonstrations at the computer, verbal explanations, and walk-through practice with kindergarten students learning school borrowing procedures.
MST3 E. MM1D Use variables such as height, weight, and hand size to predict changes over time	#5 Use effective listening and viewing skills #6 Recognize the parts of a book #7 Develop retelling skills	LMS practices prediction techniques with students as an extension of meaning within a story.
MST3 E. MM1E Use physical materials, pictures, and diagrams to explain mathematical ideas and processes and to demonstrate geometric concepts	#5 Use effective listening and viewing skills #7 Develop retelling skills #13-Differentiate between fiction and non-fiction books	LMS guides student participation in a school wide math fair with an interactive game involving geometric shapes based on a book, <u>The Greedy Triangle</u>
MEASUREMENT		
MST3 E. ME1A Understand that measurement is approximate, never exact	#5 Use effective listening and viewing skills #7 Develop retelling skills #9-Know about authors and illustrators. #13-Differentiate between fiction and non-fiction books	LMS shares exaggerated examples in literature that use descriptive language rather than exact terms to express size or distance. (e.g. "...she was so thin she could hide in the shade of a clothesline" from <u>A Year Down Yonder</u>)
MST3 E. ME1B Select appropriate standard and nonstandard measurement tools in measurement activities	#13-Differentiate between fiction and non-fiction books	LMS designs a creative lesson on measurement using the books or magazines students have borrowed. (e.g. "How tall is the stack of non-fiction books?")
MST3 E. ME1E Collect and display data	#3 Know the layout and organization of the library #5 Use effective listening and viewing skills #25-Be able to take simple notes. #26- Be able to cite sources #27 Select appropriate resources for reference information. #28 Use primary and secondary information sources #29 Be able to paraphrase information	LMS arranges for students to display data in a central location in the Library Media Center and interpret the data to classmates during class time in the library.

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MST3 E. ME1F Use statistical methods such as graphs, tables, and charts to interpret data	#25-Be able to take simple notes. #26- Be able to cite sources #28 Use primary and secondary information sources #29 Be able to paraphrase information #40Analyze and synthesize the information gathered.	LMS instructs students to convert information gathered on reader surveys into graphs, tables or charts. LMS converts statistical reports generated by library automation software into charts, graphs or tables for student interpretation

UNCERTAINTY

MST3 E. UN1B Make estimates to compare to actual results of computations	. #2 Know the library rules and procedures. #4-Know how to borrow and care for library materials #5 Use effective listening and viewing skills #25-Be able to take simple notes	LMS collaborates with classroom teacher to create a form used by each student in the classroom to estimate how many of his classmates are going to check out new library books on their next visit to the library. Compare estimate with computer statistic when borrowing is finished.
MST3 E. UN1C Recognize situations where only an estimate is required	.#5 Use effective listening and viewing skills #25-Be able to take simple notes	LMS introduces and illustrates the idea of estimation, as part of student orientation to the Library Media Center. (e.g. Number of book, videos, magazines etc. contained in the library)
MST3 E. UN1H Determine probabilities of simple events	#5 Use effective listening and viewing skills #6 Recognize the parts of a book #7 Develop retelling skills #9-Know about authors and illustrators. #13-Differentiate between fiction and non-fiction books	LMS selects a series of primary books such as Curious George and after reading one or two aloud to a class, guides and questions the students to make predictions of events in the next story, based on their knowledge of other stories in the series.

Teacher / Library Media Specialist Points of Collaboration
Leatherstocking Library Information Literacy Skills Scope and Sequence

Curriculum Area: Math / Science / Technology - Elementary	Library/Information Skill Learner Outcome	Collaborative Lesson Ideas with Library Media Specialist
PATTERNS/ FUNCTIONS		
MST3 E. PF1A Recognize, describe, extend, and create a wide variety of patterns	#5 Use effective listening and viewing skills #6 Recognize the parts of a book #7 Develop retelling skills #13-Differentiate between fiction and non-fiction books	LMS coordinates with Kindergarten and First Grade teachers to extend class learning of patterns, by presenting books focused on counting, alphabet letters, colors and shapes.
MST3 E. PF1E Use a variety of manipulative materials and technologies to explore patterns	#13-Differentiate between fiction and non-fiction books #15 Locate books on the shelves by using call numbers #18 Use the card/electronic catalog to locate materials by title, author, subject, and /or series.	LMS uses features of the Online Public Access Catalog to instruct students in the patterns of searching and sorting used to find books in the collection.
MST3 E. PF1F Interpret graphs	#5 Use effective listening and viewing skills #13-Differentiate between fiction and non-fiction books #14 Know what the reference section is in the library #21 Identify and use electronic sources #22 Comply with the district's Acceptable Use Policy for Internet #25-Be able to take simple notes. #26- Be able to cite sources #27 Select appropriate resources for reference information. #28 Use primary and secondary information sources #29 Be able to paraphrase information	LMS includes graph interpretation in all classes on using the almanac and atlases-both print and on-line. LMS guides students in creating reading related graphs which interpret interests, competitions, or daily borrowing habits.
MST3 E. PF1G Explore and develop relationships among two and three dimensional geometric shapes	#5 Use effective listening and viewing skills	LMS provides and uses picture books that show geometrical shapes used to create objects, sorting by geometric shape, and finding geometric shapes in a complicated illustration (e.g. I Spy books)
MST3 E. PF1H Discover patterns in nature, art, music, and literature	#5 Use effective listening and viewing skills #8 Appreciate nursery rhymes and stories in rhyme #9-Know about authors and illustrators. #12 Appreciate poetry #13-Differentiate between fiction and non-fiction books #25-Be able to take simple notes.	LMS uses a variety of print, electronic and audio-visual materials to create specific lessons that focus on the patterns in literature (e.g. book series, poetry and rhymes) art (e.g. style of a book illustrator) music (research on type of music) and observations or research of natural subjects (e.g. monarch butterfly from egg to adult)

Teacher / Library Media Specialist Points of Collaboration
Leatherstocking Library Information Literacy Skills Scope and Sequence

Curriculum Area: Math / Science / Technology - Elementary	Library/Information Skill Learner Outcome	Collaborative Lesson Ideas with Library Media Specialist
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Standard 4: Science

Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.

PHYSICAL SETTING		
<p>MST4 E. PS1A Describe patterns of daily, monthly, and seasonal changes in their environment</p>	<p>#4-Know how to borrow and care for library materials #5 Use effective listening and viewing skills #13-Differentiate between fiction and non-fiction books #15 Locate books on the shelves by using call numbers #17-Use the card/electronic catalog to locate materials on particular subjects. #21 Identify and use electronic sources #23 Use pre-selected bookmarked sites on the Internet #24 Know that Interlibrary Loan is available and follow appropriate procedures #29 Be able to paraphrase information</p>	<p>LMS assists students and classroom teacher in finding appropriate print sources and on-line information describing the seasons; reads seasonal stories during library classes; and works cooperatively to create seasonal displays.</p>
<p>MST4 E. PS2A Describe the relationships among air, water, and land on Earth</p>	<p>#3 Know the layout and organization of the library #5 Use effective listening and viewing skills #17-Use the card/electronic catalog to locate materials on particular subjects. #20 Locate and use simple dictionaries, thesauri, and encyclopedias #22 Comply with the district's Acceptable Use Policy for Internet #25-Be able to take simple notes. #28 Use primary and secondary information sources #31 Prepare a brief works cited page #32 Use specialized encyclopedias and subject dictionaries (print and non-print) #33 Search appropriate commercial electronic and online resources to access information</p>	<p>LMS collaborates with classroom teacher on a research project on this topic. LMS will review skills needed for student research, provide appropriate resources and display student's final product in the Library Media Center</p>
THE LIVING ENVIRONMENT		
<p>MST4 E. LE1B Describe the life processes common to all living things</p>	<p>#1-Exhibit proper library media center behavior #5 Use effective listening and viewing skills #7 Develop retelling skills</p>	<p>LMS obtains a curriculum related video presentation on life processes and prepares a "video-viewing" worksheet to assess student's viewing and listening comprehension.</p>

Teacher / Library Media Specialist Points of Collaboration
Leatherstocking Library Information Literacy Skills Scope and Sequence

Curriculum Area: Math / Science / Technology - Elementary	Library/Information Skill Learner Outcome	Collaborative Lesson Ideas with Library Media Specialist
MST4 E. LE2B Recognize that for humans and other living things there is genetic continuity between generations	#5 Use effective listening and viewing skills #7 Develop retelling skills #10-Recognize folk and fairy tales from different ethnic/geographic groups #17-Use the card/electronic catalog to locate materials on particular subjects. #21 Identify and use electronic sources #26- Be able to cite sources #28 Use primary and secondary information sources #29 Be able to paraphrase information	LMS collaborates with the classroom teacher in teaching a unit on the family, by reading inter-generational stories and accounts of immigrant families, and by assisting with simple genealogical searches.

Standard 5: Technology

Students will apply technological knowledge and skills to design, construct, use, and evaluate products and systems to satisfy human and environmental needs.

ENGINEERING DESIGN		
MST5 E. ED1A Describe objects, imaginary or real, that might be modeled or made differently and suggest ways in which the objects can be changed, fixed, or improved.	#16-Locate and use magazines in the library #28 Use primary and secondary information sources #32 Use specialized encyclopedias and subject dictionaries (print and non-print) #33 Search appropriate commercial electronic and online resources to access information #36 Use magazine indices to retrieve articles for pleasure and information (print and non-print) books	LMS instructs and assists students in finding visual representations of object to be redesigned. (e.g. Electric Library, picture file, on-line photo archive, local museum resources)

Teacher / Library Media Specialist Points of Collaboration
Leatherstocking Library Information Literacy Skills Scope and Sequence

Curriculum Area: Math / Science / Technology - Elementary	Library/Information Skill Learner Outcome	Collaborative Lesson Ideas with Library Media Specialist
TOOLS, RESOURCES & TECHNOLOGICAL PROCESSES		
MST5 E. TRTP1A Explore, use, and process a variety of materials and energy sources to design and construct things	#3 Know the layout and organization of the library #5 Use effective listening and viewing skills #15 Locate books on the shelves by using call numbers #21 Identify and use electronic sources #25-Be able to take simple notes. #45 Use the electronic catalog to locate materials using keywords, subject headings and Boolean searching.	LMS involves students from intermediate classes to design hallway displays to promote reading, using specific themes and a variety of materials.
MST5 E. TRTP1D Use simple manufacturing processes to produce a product	#1-Exhibit proper library media center behavior #3 Know the layout and organization of the library #5 Use effective listening and viewing skills or series. #25-Be able to take simple notes. #26- Be able to cite sources	LMS directs sixth grade students in the creation of new book ends to use in the library collection. Simple step-by-step directions are provided for independent work on the project, using electronic and mechanical tools.
COMPUTER		
MST5 E. C1A Identify and describe the function of the major components of a computer system	#1-Exhibit proper library media center behavior #5 Use effective listening and viewing skills #7 Develop retelling skills #21 Identify and use electronic sources	LMS assists kindergarten teachers with teaching basic parts of the computer (keyboard, printer, monitor, etc.) by sharing a story which uses the new vocabulary, posting labels on parts of the computer in the library media center and then dramatizing the story.
MST5 E. C1B Use the computer as a tool for generating and drawing ideas	#5 Use effective listening and viewing skills #7 Develop retelling skills #21 Identify and use electronic sources	LMS incorporates students prior knowledge of the Paintbrush Software program to design a picture which relates to the story of <u>Shiloh</u> , read by their classroom teacher.
MST5 E. TS1C Understand that larger systems are made up of smaller component sub-systems	#5 Use effective listening and viewing skills #21 Identify and use electronic sources	LMS explains to students how each computer that is in the Library Media Center has the same information about the collection and is part of the system in the building.
HISTORY & EVOLUTION OF TECHNOLOGY		
MST5 E. HET1A Identify technological developments that have significantly accelerated human progress	#21 Identify and use electronic sources #22 Comply with the district's Acceptable Use Policy for Internet #25-Be able to take simple notes. #26- Be able to cite sources #27 Select appropriate resources for reference information.	LMS collaborates with intermediate social studies teachers to have students create a timeline of technological developments to be displayed in the library media center.

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IMPACTS OF TECHNOLOGY		
<p>MST5 E. IT1A Describe how technology can have positive and negative effects on the environment and on the way people live and work</p>	<p>#25-Be able to take simple notes. #26- Be able to cite sources #27 Select appropriate resources for reference information. #28 Use primary and secondary information sources #29 Be able to paraphrase information #37 Use multimedia software to produce presentations</p>	<p>LMS works with all classes and staff to survey the changes that have been experienced in school, since the entire building has been networked. Presentations would be in the form of graphs and charts.</p>
MANAGEMENT OF TECHNOLOGY		
<p>MST5 E. TS1B Speculate on and model possible technological solutions that can improve the safety and quality of the school or community environment</p>	<p>#25-Be able to take simple notes. #26- Be able to cite sources #27 Select appropriate resources for reference information. #28 Use primary and secondary information sources #29 Be able to paraphrase information</p>	<p>LMS bookmarks several web sites for students to investigate ways in which technology could be used to improve school safety.</p>

Teacher / Library Media Specialist Points of Collaboration
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Standard 6: Interconnectedness: Common Themes

Students will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning.

SYSTEM THINKING

<p>MST6 E. ST1B Identify common things that can be considered to be systems (e.g. a plant population, a subway system, human beings)</p>	<p>#32 Use specialized encyclopedias and subject dictionaries (print and non-print) #33 Search appropriate commercial electronic and online resources to access information</p>	<p>LMS conducts a lesson on search strategies in print and on-line encyclopedias using terms related to <i>systems</i>.</p>
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MODELS

<p>MST6E. M1B Discover that a model of something is different from the real thing but can be used to study the real thing</p>	<p>#23 Use pre-selected bookmarked sites on the Internet #25-Be able to take simple notes. #26- Be able to cite sources #29 Be able to paraphrase information 33 Search appropriate commercial electronic and online resources to access information #40Analyze and synthesize the information gathered.</p>	<p>LMS implements a compare/contrast method of observation with intermediate grades, using pictures of well-known animal sculptures and a written description of the same animal found in an on-line animal database.</p>
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PATTERNS OF CHANGE

<p>MST6 E. PC1A Use simple instruments to measure such quantities as distance, size, and weight and look for patterns in the data</p>	<p>#5 Use effective listening and viewing skills #25-Be able to take simple notes.</p>	<p>LMS collaborates with primary classroom teacher to provide additional practice for students in weighing and measuring, by measuring and weighing their borrowed books, looking for patterns (e.g. small hardcover books weigh more than large paperback books)</p>
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Teacher / Library Media Specialist Points of Collaboration
Leatherstocking Library Information Literacy Skills Scope and Sequence

Curriculum Area: Math / Science / Technology - Elementary	Library/Information Skill Learner Outcome	Collaborative Lesson Ideas with Library Media Specialist
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Standard 7: Interdisciplinary Problem Solving

Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions.

Connections		
MST7 E. C1A Analyze science/technology/ society problems and issues that affect their home, school, or community, and carry out a remedial course of action	#1-Exhibit proper library media center behavior #2 Know the library rules and procedures. #3 Know the layout and organization of the library #5 Use effective listening and viewing skills #15 Locate books on the shelves by using call numbers	LMS brainstorms with library helpers on the issues of poor work ethic, and lack of pride in work, to gather possible solutions to an existing problem. (e.g. books are being shelved incorrectly by volunteer student helpers) Remedial action to be taken by LMS and helpers, according to analysis of problem.

SKILLS & STRATEGIES FOR INTER-DISCIPLINARY PROBLEM SOLVING

MST7 E. SS1A Working effectively, gathering and processing information, generating and analyzing ideas, common themes, realizing ideas, presenting results	#5 Use effective listening and viewing skills #23 Use pre-selected bookmarked sites on the Internet #28 Use primary and secondary information sources #29 Be able to paraphrase information #32 Use specialized encyclopedias and subject dictionaries (print and non-print) #33 Search appropriate commercial electronic and online resources to access information #35 Understand plagiarism and the need for documentation when doing a research project. #37 Use multimedia software to produce presentations #40 Analyze and synthesize the information gathered.	LMS collaborates with classroom teachers, resource room teachers and students on any extended project which implements the information literacy skills needed for gathering, processing and analyzing information. Review of basic research skills, acquisition of specialized materials, evaluation and pre-selection of on-line sources and help with presentations are possible points of collaboration for LMS.
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