SAN LORENZO UNIFIED SCHOOL DISTRICT

Curriculum/Technology Integration Matrix

Math

Supporting Project-based Classrooms

2003 -2006

Technology Benchmarks

During the 2005 – 2006 school year the San Lorenzo Unified School District's ***Technology Use Plan*** was revised to reflect both State and Federal guidelines related to the use of classroom technology.

The current plan includes a Curriculum/Technology Integration Matrix for Math which acts as a curriculum integration model for integration of technology skills.

The goal each year is to have teachers at each grade level incorporate the identified technology and research standards into a lesson plan or unit.

Each student at each grade level will accomplish the yearly technology integration benchmark identified in our Technology Use Plan.

The Curriculum/Technology Integration Matrix is based on state standards for research and technology as well as the identified academic standard for math.

Curriculum/Technology Integration Matrix for Math

<table>
<tr><td colspan="3">SUPERINTENDENT'S GOAL: 4.1
Staff development will provide teachers with project-based learning strategies that utilize technology to support and enhance learning with a focus on academic standards.
Objective: By June of 2004 teachers at each grade level will work with students to create a benchmark product for each grade level as indicated in the district's Curriculum Integration Matrix for Language Arts and Reading.</td></tr>
<tr><td colspan="3">Kindergarten</td></tr>
<tr><td>Category Area</td><td colspan="2">Uses of Technology in the Curriculum</td></tr>
<tr><td rowspan="11">Technology Skills</td><td>Skill</td><td>Level</td></tr>
<tr><td>Turn on computer</td><td>Introduce</td></tr>
<tr><td>Choose a program</td><td>Introduce</td></tr>
<tr><td>Change activity within a program</td><td>Introduce</td></tr>
<tr><td>Exit program</td><td>Introduce</td></tr>
<tr><td>Select another program</td><td>Introduce</td></tr>
<tr><td>Shutdown computer</td><td>Introduce</td></tr>
<tr><td>Use mouse</td><td>Introduce</td></tr>
<tr><td>Print Document</td><td>Introduce</td></tr>
<tr><td>Input a CD-ROM/DVD</td><td>Introduce</td></tr>
<tr><td>General Keyboard Orientation</td><td>Introduce</td></tr>
<tr><td>Examples Of Projects Using Technology Skills</td><td colspan="2">Class Story
Weather Forecast
Counting Book
Design Greeting Cards</td></tr>
<tr><td>Math Content Standards
California Public Schools</td><td colspan="2">Number Sense
1.2 Count, recognize, represent, name, and order a number of objects (up to 30).
1.3 Know that the larger numbers describe sets with more objects in them than the smaller numbers have.</td></tr>
<tr><td>YEARLY BENCHMARK</td><td colspan="2">Students will accomplish basic orientation of the keyboard and will create a counting book.</td></tr>
</table>

First Grade		
Category Area	**Uses of Technology in the Curriculum**	
Technology Skills	Skill	Level
	Turn on/off computer	Practice
	Choose a program	Practice
	Change activity within a program	Practice
	Exit program	Practice
	Print document	Practice
	Manipulate basic keyboard functions (return, shift, space, and backspace)	Practice
	Select another program	Practice
	Demonstrate correct hand placement on keyboard	Introduce
	Use age appropriate word processing programs	Introduce
Examples Of Projects Using Technology Skills	Class Story/Individual Story Weather Forecast Posters Design Greeting Cards Journal	
Math Content Standards California Public Schools	**Statistics, Data Analysis, and Probability** 2.1 Describe, extend, and explain ways to get to a next element in simple repeating patterns (e.g., rhythmic, numeric, color, and shape).	
Yearly BENCHMARK	Students will create patterns, i.e., a a b a a, using computer graphics, sort the objects, and describe what they have created.	

Second Grade		
Category Area	**Uses of Technology in the Curriculum**	
Technology Skills	Skill	Level
	Turn on/off computer	Master
	Choose a program	Master
	Change activity within a program	Master
	Exit program	Master
	Select another program	Master
	Print document	Master
	Demonstrate correct hand placement on keyboard	Practice
	Use age appropriate word processing programs	Practice
	Manipulate keyboard including alpha-numeric keys (8 wpm)	Introduce
	Communicate using e-mail with the assistance of others	Introduce
	Edit and save work	Introduce
	Use bookmarks to access web pages	Introduce
Examples Of Projects Using Technology Skills	Class Story/Individual Story Weather Forecast Posters Poems Journal Virtual Field Trip E-mail Letters	
Math Content Standards California Public Schools	**Number Sense** **5.0 Students model and solve problems by representing, adding, and subtracting amounts of money:** 5.1 Solve problems using combinations of coins and bills.	
Yearly BENCHMARK	Students will work with money using the Internet sites; www.aplusmath.com/cgi-bin/flashcards/money or http://www.usmint.gov/kids/flashIndex.cfm , etc. etc.	

Third Grade		
Category Area	**Uses of Technology in the Curriculum**	
Technology Skills	Skill	Level
	All skills mastered in previous grades	Use
	Use proper touch-typing on letter keys (12 wpm)	Practice
	Use basic word-processing skills; Font, size, alignment, spell check, toolbars, page layout	Practice
	Import Graphics	Introduce
	Use on-line resources	Introduce
	Use the Internet; type addresses, manage bookmarks	Introduce
	Communicate using e-mail	Introduce
	Demonstrate ethical and safe procedures related to sharing personal information	Introduce
	File management: create folders, save to server	Introduce
	Use Presentation Software	Introduce
Examples Of Projects Using Technology Skills	Class Story/Individual Story Note Taking Reports Journal Virtual Field Trip E-mail On-line Bulletin Boards Digital Portfolios Letter Poetry	
Math Content Standards California Public Schools	**Number Sense** 2.2 Memorize to automaticity the multiplication table for numbers between 1 and 10.	
Yearly BENCHMARK	Students will create all the arrays for a given number and explain the relationships between them. Can use Kid Pix stamps or Word graphics.	

Fourth Grade		
Category Area	**Uses of Technology in the Curriculum**	
Technology Skills	Skill	Level
	All skills mastered in previous grades	Use
	Communicate using e-mail	Practice
	Demonstrate ethical and safe procedures related to sharing personal information	Practice
	Use presentation software	Practice
	Explore the Internet and perform guided research, download text and graphics	Practice
	Import and Create Graphics in documents	Practice
	Use AlphaSmart connections	Practice
	Keyboard with increasing speed and accuracy and learning additional keys (18 wpm)	Practice
	File Management; Create folders, save to server or media	Practice
	Use a scanner and digital camera with adult supervision	Introduce
	Examine issues of copyright and the ethical use of computer networks	Introduce
	Create and use charts and graphs	Introduce
Examples Of Projects Using Technology Skills	Class Story/Individual Story Note Taking Reports Journal Virtual Field Trip E-mail On-line Bulletin Boards Data Collection Projects Electronic Research Newsletters Digital Portfolios	
Math Content Standards California Public Schools	**Measurement and Geometry** **1.0 Students understand perimeter and area:** 1.1, 1.2, 1.3, and 1.4	
Yearly BENCHMARK	Students will use Microsoft Word or another drawing program to create a "blue print" for a building and will designate the area and perimeter for each room as well as a total area and perimeter for the building.	

Fifth Grade		
Category Area	**Uses of Technology in the Curriculum**	
Technology Skills	Skill	Level
	All skills mastered in previous grades	Use
	Import and create graphics	Master
	Use AlphaSmart connections	Master
	Create and use charts and graphs	Practice
	Use a scanner and digital camera with adult supervision	Practice
	Explore Internet and perform guided research	Practice
	Demonstrate ethical and safe procedures related to sharing personal information	Practice
	Examine issues of copyright and the ethical use of computer networks	Practice
	Use Basic word-processing skills	Practice
	Cut and Paste	Master
	Page layout	Master
	Manage files, folders and basic operating system	Practice
	Create spread sheets with simple formulas	Practice
	Keyboard with increasing speed and accuracy (20 wpm)	Practice
	Presentation Software	Practice
Examples Of Projects Using Technology Skills	Class Story/Individual Story Note Taking Reports Journal Flyers Newsletters Greeting Cards Virtual Field Trip Business Ledger/Spreadsheet E-mail Digital Portfolios Data Collection Projects Math Projects	
Math Content Standards California Public Schools	**Statistics, Data Analysis, and Probability** 1.2 Organize and display single-variable data in appropriate graphs and representations (e.g., histogram, circle graphs) and explain which types of graphs are appropriate for various data sets.	
Yearly BENCHMARK	Students will use Microsoft Excel or similar program to work with a given set of data. Students will enter the data on a spread sheet and will convert the data to an appropriate graph (bar, circle, etc.).	

<table>
<tr><th colspan="3">Middle School</th></tr>
<tr><td>Category Area</td><td colspan="2">Uses of Technology in the Curriculum</td></tr>
<tr><td>Technology Skills</td><td colspan="2"><table>
<tr><th>Skill</th><th>Level</th></tr>
<tr><td>All skills mastered in previous grades</td><td>Use</td></tr>
<tr><td>Create and use charts and graphs</td><td>Master</td></tr>
<tr><td>Manage files, folders and basic operating system functions</td><td>Master</td></tr>
<tr><td>Demonstrate ethical use of computer networks and copyrights</td><td>Master</td></tr>
<tr><td>Keyboard with increasing speed and accuracy (30 wpm)</td><td>Master</td></tr>
<tr><td>Use Word-processing skills of
Pagination, footnotes, end notes, headers, mail merge</td><td>Introduce</td></tr>
<tr><td>Perform searches using Boolean search and multiple search sources (Using Electric Library online database & Internet)</td><td>Introduce</td></tr>
<tr><td>Evaluate online sources of information for appropriateness and credibility (Big 6 Information Literacy Model)</td><td>Introduce</td></tr>
<tr><td>Solve basic computer problems encountered with hardware and software</td><td>Introduce</td></tr>
<tr><td>Gather data, design and use a database</td><td>Introduce</td></tr>
<tr><td>Integrate word-processing, graphics, spreadsheets, and databases to prepare and present data</td><td>Introduce</td></tr>
<tr><td>Design a web page</td><td>Introduce</td></tr>
<tr><td>Use advanced e-mail functions (attaching files, cc, etc.)</td><td>Introduce</td></tr>
</table></td></tr>
<tr><td>Examples Of Projects Using Technology Skills</td><td>Note taking
Multi-page footnoted reports
Journal/grade level newspaper
Virtual Field Trip
E-mail/Internet projects
Create a form letter using mail merge</td><td>Digital portfolios
Group and individual projects
Data collection projects
Environmental Surveys
Create a web page
Logic Projects</td></tr>
<tr><td>Math Content Standards California Public Schools</td><td colspan="2">Sixth: Statistics, Data Analysis, and Probability: 1.0 – 3.5
Answering the essential question, “Is it Possible” students will design and implement a survey to answer the question stated above using Excel and Word to record and analyze the data.
Seventh: Number Sense: 1.0 – 2.5
Algebra & Functions 1.0
(See Appendix C, p. 254 of the Math Framework for a complete lesson plan.) Answering the essential question “How Do I Grow Money,” students will establish a bank account, compute compound interest at a given rate, and will record and analyze the change over time.</td></tr>
<tr><td>Yearly BENCHMARK</td><td colspan="2">Included Above</td></tr>
</table>

High School		
Category Area	**Uses of Technology in the Curriculum**	
Technology Skills	Skill	Level
	All skills mastered in previous grades	Use
	Word Process at 55 wpm with at least 80% accuracy	Master
	Create a spreadsheet using advanced functions	P&M
	Import/export text, data, sound, etc.	P & M
	Integrate word-processing, graphics, spreadsheets, and databases to prepare and present data	Master
	Create a web page	P & M
	Gather data, design and create a database	Master
	Perform Boolean searches with multiple search engines	P & M
	Demonstrate ethical use of computer networks and copyrights	P & M
	Demonstrate ethical and safe procedures related to sharing personal information	P & M
	Evaluate online sources of information for appropriateness and credibility, and discriminate between public and private data	P & M
	Use basic troubleshooting strategies to handle routine hardware and software problems	P & M
	Use hyperlinked multimedia tools and integrated productivity tools to design, publish and present individual and team projects	P & M
	Use telecommunications to collaborate with students, experts and others at distant locations to investigate curriculum related concepts, issues and information.	P & M
	Make informed choices among technology systems, resources, and services.	P & M
	Identify capabilities and limitations of contemporary and emerging technology resources and the potential for lifelong learning and workplace needs.	P & M
Examples Of Projects Using Technology Skills	Note taking Multi-page footnoted reports Journal/grade level newspaper Virtual field trip E-mail/Internet projects Job Search Digital Presentations Developing Websites Distance Learning	Digital Portfolios Animated shorts On-line interviews Group and individual projects Data collection projects Environmental Surveys Create a web page Logic Projects
Yearly BENCHMARK	Students will create at least one exemplar project per year illustrating technology competencies such as creation of a word processed research report, PowerPoint Presentation, Website, Digital Photography, Graphics Project or integration of spreadsheet and/or database applications as a part of a planned project.	

P = Practice
M = Master

Educational Technology Support Staff

Georgeann Hardy, Director ghardy@slzusd.org	317-4751
Mary Milton, District Library Media Specialist mmilton@slzusd.org	317-4759
Sally Vilas, District Library Media Specialist svilas@slzusd.org	317-4743
Kathy Crenshaw, Teacher on Assignment kcrenshaw@slzusd.org	317-4753
Sandra Ghiselli, IMTC Assistant, Equipment check out sghiselli@slzusd.org	317-4754
Linda Kemp, IMTC, Ed Tech Office Assistant lkemp@slzusd.org	317-4752