

## Nutshell Curriculum: Creekside Learning Lab Class 2012-2013

Note: During the school year each BIG QUESTION will become the theme/topic for class investigation, project, model or prototype development, and presentation. Big Question investigation encompasses a 4 - 9 week period time frame. This nutshell presents highlights only. For a more granular look please see FINAL 2012-13 Long-range Curriculum Plan.

<b>Big Question #1: <i>Who Am I?</i></b>		<i>August 29 – September 24</i>
Science	<p><b>Sociology:</b> Brain chemistry, study of personal learning styles, intelligences, interests</p> <p><b>Hands-on Science:</b> Experimental Design - <i>Cool Effects</i> (e.g. dependent and independent variables)</p>	
Social Studies	<p><b>History &amp; Geography:</b> Pre-Columbian settlements in the Americas, reasons for rise and fall of ancient civilizations, U.S. landforms/mapping, <i>The Story of US</i>, Joy Hakim (Vol. 1-2)</p>	
Math	<p><b>Number Sense Computation:</b> review addition &amp; subtraction using large numbers, rapid recall of multiplication facts</p> <p><b>Algebra &amp; Functions:</b> parentheses and brackets, write expressions, numerical patterns, rules (<math>x + 1 \times y = 14</math>), identify relationships between terms, linear functions, scientific notation</p> <p><b>Geometry:</b> axes and coordinate plane, ordered pairs</p> <p><b>Open Response Problems:</b> various sources</p> <p><b>Practice:</b> Khan Academy and other online sources</p>	
Reading	<p><b>Reading Comprehension:</b> scan text, locate information, extrapolate data</p> <p><b>Literary Response:</b> compare &amp; contrast, extrapolate data</p> <p><b>Guided Reading:</b></p> <ul style="list-style-type: none"> <li>Jr. Great Books &amp; shared inquiry; <i>The Invisible Child</i>, ❶ p. 205, <i>The Turquoise Horse</i>, ❶ p. 67, <i>A Game of Catch</i> ❶ p. 109</li> <li>Novels: <i>Sign of the Beaver</i>, Elizabeth George Spear, <i>Island of the Blue Dolphins</i>, Scott O'Dell</li> </ul> <p><b>Reference:</b> U.S. Atlas, index and table of contents (plant &amp; animal identification)</p>	
Writing & English Language Arts	<p><b>Vocabulary:</b> word attack skills for reading fluency; <i>Greek/Latin</i> roots, phonics, begin creating vocabulary cards</p> <p><b>English:</b> nouns, plurals, verbs, verb tenses, comma use, combining sentences</p> <p><b>Writing Process:</b> baseline writing, paragraph structure and organization, writing process steps, <i>Writing Using Children's Literature</i> Lessons 1-4</p> <p><b>Writing Applications:</b> personal narrative, friendly letter</p> <p><b>Mapping Strategies:</b> Bubble and Double-Bubble graphic organizers, Flow Chart</p> <p><b>Written &amp; Oral English Language:</b> standard English conventions, group and peer conferencing, blogging</p> <p><b>Listening:</b> group interactions, <i>Morning Meeting</i>, audience skills, paraphrase &amp; questioning techniques</p> <p><b>Speaking:</b> brief presentations, standard English conventions, sentence structure, poise</p>	
Fine Arts	<p><b>Music:</b> create primitive instruments, pentatonic scale</p> <p><b>Art:</b> weaving, Native American artifact</p>	
Field Trips (On-site or off, scheduled and/or possible. Subject to	<p><b>Curriculum Tie-in:</b></p> <ul style="list-style-type: none"> <li>d.school = August 30, 2012 (9:30 – 2:00)</li> <li>Jasper Ridge (1 of 3) September</li> </ul>	

change.)	<ul style="list-style-type: none"> <li>• Stanford Archaeological DIG</li> <li>• Lawrence Hall of Science (Amazing Brain &amp; Structural Engineering)</li> </ul>
Empathy	<p><b>Service Learning:</b></p> <ul style="list-style-type: none"> <li>• Self-directed groups, following interest and passion</li> </ul>
Other	<p><b>Interpersonal Skills Development</b></p> <ul style="list-style-type: none"> <li>• Computer Etiquette &amp; Cyber Safety</li> <li>• Cooperative Learning &amp; Interdependence</li> <li>• 21<sup>st</sup> Century Competencies</li> <li>• Ethical treatment of each other</li> <li>• Development of <i>Who Am I?</i> project</li> <li>• The <i>Design Thinking</i> process</li> </ul> <p><b>Design Thinking:</b> First Design Project; Design the “perfect” person or The “Perfect” Location” the perfect learning space</p> <p><b>Technology:</b> Excel spreadsheet, blogging, create Pathbrite digital portfolio</p>
Evaluation (includes but is not limited to...)	<p><b>Big Question Report:</b> Presentation of <i>Who Am I?</i> (independent)</p> <p><b>Design Challenge:</b> The Americas, map project (pairs)</p> <p><b>Design Challenge:</b> Presentation of Native American Culture/Artifact (independent)</p> <p><b>Daily Anecdotal:</b> creativity, curiosity, collaboration, cultivation, citizenship, communication, critical thinking</p>

Big Question #2: <i>What Makes A Sustainable Environment?</i>		<i>September 24 – November 1</i>
Science	<p><b>Sociology:</b> Study of personal impact on local &amp; global environment, the value of failure</p> <p><b>Life Science:</b> Ecosystems, weather and climate, local wetland biology and beginning ongoing field work</p> <p><b>Earth Science:</b> water &amp; carbon cycles, oceanography</p> <p><b>Hands-on Science:</b> Water quality testing, ocean habitats, ocean currents (convection, induction, gyres)</p>	
Social Studies	<p><b>History &amp; Geography:</b> Reasons for rise and fall of ancient civilizations, the spirit of exploration, explorers</p> <p><i>The Story of US</i>, Joy Hakim (Vol. 1-2),</p>	
Math	<p><b>Number Operations Base Ten:</b> place value (base 10), powers of 10, computation using large numbers &amp; exponents; compare decimals, rounding decimals, standard &amp; scientific notation, complex multiplication, long division, +, -, x, ÷ decimals.</p> <p><b>Measurement &amp; Data:</b> convert among different units of measurement, create and interpret line plots, analyze data using common data landmarks</p> <p><b>Whole Number Operations with Fractions:</b> fractions as function of division</p> <p><b>Open Response Problems:</b> Various resources</p> <p><b>Practice:</b> Khan Academy and other online sources</p>	
Reading	<p><b>Reading Comprehension:</b> main idea (stated &amp; implied), inference, locate information, quoting text, synthesis of information</p> <p><b>Guided Reading:</b></p> <ul style="list-style-type: none"> <li>• Jr. Great Books &amp; shared inquiry; <i>No Guitar Blues</i>, ❶ p. 5, <i>In the Time of the Drums</i> ❶, 241.</li> <li>• Novel: <i>Island of the Blue Dolphins</i>, Scott O’Dell, <i>The Witch of Blackbird Pond</i> Elizabeth George Spear</li> </ul> <p><b>Reference:</b> Explorer biographies</p> <p><b>Writing:</b> structured (headings) informational/expository writing, with attribution (bibliography), business letter</p>	
Writing & English Language Arts	<p><b>Vocabulary:</b> add to vocabulary cards, derivatives, affixes, inflected endings</p> <p><b>English:</b> standard conventions, conjunctions, prepositions, interjections, comma, combine &amp; reduce sentences, spelling rules</p> <p><b>Word Analysis:</b> reading fluency &amp; vocabulary development, Greek/Latin roots</p> <p><b>Writing:</b> audience &amp; purpose, paragraph organization (introduction, body, conclusion) paragraph structure, note taking, syntax clarity, word choice</p> <p><b>Mapping Strategies:</b> Brace Map, Cause/Effect graphic organizers</p> <p><b>Writing:</b> Develop informational piece with adequate factual information, triangulation of information, <i>Writing Using Children’s Literature</i> Lessons 5-8</p> <p><b>Written &amp; Oral English Language:</b> informational/expository writing, standard English conventions, editing, proofreading, group and peer conferencing</p> <p><b>Listening:</b> focus on salient discussion, group interactions, <i>Morning Meeting</i>, audience skills</p> <p><b>Speaking:</b> paraphrase and/or summarize Big Question, public presentations using multi-media</p>	
Fine Arts	<p><b>Music:</b> TBD</p> <p><b>Art:</b> Great Pacific Garbage Patch (up-cycle project), art activism, aboriginal art</p>	

<p>Field Trips (On-site or off, scheduled and/or possible. Subject to change)</p>	<p><b>Curriculum Tie-in:</b></p> <ul style="list-style-type: none"> <li>• Astronomy (Star Lab) overnight</li> <li>• See live theater performance &amp; have formal lunch in the city</li> <li>• Sail the <i>Lady Washington</i></li> <li>• Halloween visit to Sequoia's</li> </ul>
<p>Empathy</p>	<p><b>Service Learning:</b></p> <ul style="list-style-type: none"> <li>• Preparing short letters and conversations (Skype)</li> </ul>
<p>Other</p>	<p><b>Interpersonal Skills Development Continued</b></p> <ul style="list-style-type: none"> <li>• Computer Etiquette &amp; Cyber Safety</li> <li>• Cooperative Learning &amp; Interdependence</li> <li>• Ethical treatment of ecosystems</li> <li>• Applying what was learned from the <i>Who Am I?</i> project to other group situations</li> <li>• Visit by local behavioral psychologist</li> </ul> <p><b>Design Thinking:</b></p> <ul style="list-style-type: none"> <li>• Design the “perfect” being to inhabit a specific location</li> <li>• Design a better way to conserve energy</li> </ul>
<p>Evaluation (includes but is not limited to...)</p>	<p><b>Public Demonstration with Adult Moderators:</b></p> <ul style="list-style-type: none"> <li>• Multi-media presentation of Big Question #2</li> <li>• Glows &amp; Grows</li> </ul> <p><b>Explorer biography and visual:</b> report/presentation  <b>Age of Sail:</b> (Phase one) 16<sup>th</sup> century sailing vessel scale model ‘blueprint’  <b>Daily Anecdotal:</b> creativity, curiosity, collaboration, cultivation, citizenship, communication, critical thinking</p>

<b>Big Question #3: Does Exploration Lead to Innovation?</b>		<b>November 1 – January 20</b>
Science	<p><b>Physical Science:</b> chemistry (i.e. elements, atoms, molecules, compounds) &amp; physics (nature/behavior and properties of matter and energy)  <b>Hands-on Science:</b> Physics - manual and mechanical energy transfer (simple &amp; complex machines, converting physical to mechanical energy, inertia, potential and kinetic energy, computer generated animation); structural integrity in architecture</p>	
Social Studies	<p><b>History:</b> European exploration &amp; territorial expansion, North American Colonization  <b>Civics:</b> Economics of exploration, the rule of law, the ethics of colonization, slavery, democracy  <i>The Story of US</i>, Joy Hakim (Vol. 2-3),</p>	
Math	<p><b>Number Operations with Fractions:</b> add/subtract fractions with like &amp; unlike denominators, solve word problems using fractions, multiplication of fraction by whole number, multiply fraction by mixed number, apply skill with addition, subtraction, multiplication of fractions, review GCF and LCD, relate fractions to decimals and percents  <b>Open Response Problem Solving (with fractions):</b> Variety of resources  <b>Practice:</b> Khan Academy and other online sources</p>	
Reading	<p><b>Reading Comprehension:</b> compare &amp; contrast (settings, characters, stories), author’s purpose, figurative language, characterization, generalization, sequence, drawing conclusions, reading fluency, accuracy, expression; compare &amp; contrast ideas, events, genres  <b>Vocabulary:</b> phonics, syllabication, Greek/Latin Roots  <b>Guided Reading:</b></p> <ul style="list-style-type: none"> <li>Jr. Great Books &amp; shared inquiry; <i>Lucky Boy</i> 2 p. 223, <i>Lenny’s Red-Letter Day</i> 2 p. 111.</li> <li>Novel: <i>The Witch of Blackbird Pond</i> Elizabeth George Spear, <i>Ben &amp; Me</i>, <i>Robert Lawson</i>, <i>Fighting Ground</i>, <i>Avi</i></li> </ul> <p><b>Reference:</b> Dictionary, Glossary (appropriate meaning), thesaurus  <b>Speaking &amp; Listening Strategies:</b> analysis &amp; evaluation of media sources  <b>Literary Response Analysis:</b> Quick Write, author’s purpose, author’s POV, story moral</p>	
Writing English & Language Arts	<p><b>Vocabulary:</b> add to vocabulary cards, derivatives, affixes, inflected endings  <b>English:</b> Use standard conventions (punctuation, spelling, grammar, capitalization), use headings, index, glossary, table of contents  <b>Writing:</b> note taking, summarizing, main idea, supporting details, providing evidence to support ideas/opinions; <i>Writing Using Children’s Literature</i> Lessons 9-12  <b>Writing Genre:</b> writing informational articles (e.g. Colonial Crafts), facts &amp; definitions, precise vocabulary, essay format  <b>Mapping Strategies:</b> Circle, Tree  <b>Written &amp; Oral Language:</b> use standard English conventions  <b>Speaking:</b> deliver public exhibition, ask salient questions to clarify spoken ideas; interpret non-verbal cues; draw conclusions, make inferences, adapt speech to suit purpose and audience</p>	
Fine Arts	<p><b>Music:</b> Dvorak, Stravinsky, glass harmonium, electronic music, hip hop, student recital</p>	

	<p><b>Art:</b> Renaissance, humanism, perspective, wood-block printing, mechanical drawing, drawing from nature</p>
<p>Field Trips (scheduled and/or possible)</p>	<p><b>Curricular Tie-in:</b></p> <ul style="list-style-type: none"> <li>• The Tech San Jose (chemistry class and iMax)</li> <li>• Cal Academy (Planetarium)</li> <li>• Computer HISTORY Museum of Santa Clara (Innovation)</li> <li>• Jasper Ridge (2 of 3)</li> <li>• SLAC, Tesla, or other innovative company</li> </ul>
<p>Empathy</p>	<p><b>Service Learning</b></p> <ul style="list-style-type: none"> <li>• Self-directed projects</li> </ul>
<p>Other</p>	<p><b>Interpersonal and Other Skills Development</b></p> <ul style="list-style-type: none"> <li>• Cooperative Learning &amp; Interdependence</li> <li>• Ethical treatment of animals and plants</li> <li>• Ancestral records/ human genome</li> <li>• Problem solving using STEM activities</li> </ul> <p><b>Design thinking project:</b> complete and test model sailing vessels  <b>Design Thinking project:</b> Invent a musical instrument or Rube Goldberg perpetual energy machine</p>
<p>Evaluation (includes but is not limited to...)</p>	<p><b>Public Exhibition with Adult Moderation:</b> Big Question #3 <i>Exploration and Innovation</i>  <b>Age of Sail:</b> (Phase 2) 16<sup>th</sup> century sailing vessel scale model completed and tested  <b>Colonization Simulation:</b> colonial trades research outline, cooperation in colony building  <b>Self Evaluation:</b> for progress report  <b>Daily Anecdotal:</b> creativity, curiosity, collaboration, cultivation, citizenship, communication, critical thinking</p>

<b>Big Question #4: <i>What's in a Story</i></b>		<b>January 20 – March 23</b>
Science	<p><b>Physical Science:</b> the scientific method (science exhibition); students perform their own investigations using the process using science content or by developing a socially relevant hypothesis (sociology), visual composition (video &amp; still photography)</p> <p><b>Earth Science:</b> weather &amp; weather reporting &amp; weather prognostication</p> <p><b>Hands-on Science:</b> <i>Environmental Mystery</i> (Grey Bay Simulation), ongoing field studies at Corte Madera Creek and Jasper Ridge</p>	
Social Studies	<p><b>History:</b> early European settlement, early conflicts with Great Britain; the culture of the Colonial Period (religious, governmental, social &amp; economic institutions); causes of the American Revolution, the US Declaration of Independence, <i>The Story of US</i>, Joy Hakim (Vol. 3-4),</p>	
Math	<p><b>Number Operations with Fractions:</b> find area using tiling strategies, divide fractions by fractions, whole numbers and mixed numbers, develop division as inverse relationship to multiplication, solve real-world problems involving fractions, integers and calculations using + and – integers</p> <p><b>Review:</b> probability, area and perimeter of 2-D figures, review data landmarks &amp; find range, mode, median, mean; plot data correctly, graph using various formats, and compare/discuss results</p> <p><b>Open Response:</b> Various resources</p> <p><b>Practice:</b> Khan Academy and other online sources</p>	
Reading	<p><b>Reading Comprehension:</b> quotations, compare &amp; contrast, theme, story elements (plot, setting, characterization, theme, climax, resolution), inference, drawing conclusion, generalization; fact versus opinion, visualization, identification of story problem</p> <p><b>Vocabulary:</b> add to vocabulary cards, derivatives, affixes, inflected endings</p> <p><b>Guided Reading:</b></p> <ul style="list-style-type: none"> <li>• Jr. Great Books &amp; shared inquiry <i>Learning the Game</i> ❶ p. 271, <i>Barbie</i> ❷ p. 145</li> <li>• Novel: <i>Ben &amp; Me</i>, Robert Lawson, <i>Fighting Ground</i>, Avi</li> </ul> <p><b>Reference:</b> 'Primary Source' material, valid electronic sources</p>	
Writing English & Language Arts	<p><b>English:</b> standard conventions, dialects, quoting a speaker, figurative language</p> <p><b>Writing:</b> write fiction (well developed story line, characters, descriptive settings, rising action and plot resolution), use sequence/transitional words</p> <p><b>Poetry:</b> study and write variety of poetry (cinquain, haiku, free verse, shape) for a variety of audiences</p> <p><b>Mapping Strategies:</b> Story Plot, Bridge (Cause/Effect, Analogy) graphic organizers</p> <p><b>Writing Instruction:</b> <i>Writing Using Children's Literature</i> "Show it! Don't Tell it!" editing, proofreading</p> <p><b>Written &amp; Oral English Language:</b> collaborate, rules for discussion, question effectively, standard English conventions</p> <p><b>Speaking Applications:</b> ask salient questions to clarify spoken ideas; interpret non-verbal cues; draw conclusions and make inferences</p> <p><b>Speaking &amp; Listening Strategies:</b> analysis and evaluation of media sources, self reflection and decision making</p>	
Fine Arts	<p><b>Music:</b> opera (e.g. Verdi, Mozart); Johann Bach (harpsichord &amp; piano forte); folk music &amp; folk dance (jigs, minuets, Virginia Reel, etc.)</p> <p><b>Art:</b> watercolor landscape, pen and ink drawing, cartooning/caricature, Gilbert Stuart</p>	

	(colonial portraits)
Field Trips	<p><b>Curricular Tie-in:</b></p> <ul style="list-style-type: none"> <li>• Exploratorium &amp; Tactile Dome</li> <li>• Save the Bay (restoration)</li> <li>• <i>Get Smart with Art</i> deYoung</li> <li>• Student recital/music performance</li> </ul>
Empathy	<b>Service Learning:</b>
Other	<p><b>Interpersonal and Other Skills Development</b></p> <ul style="list-style-type: none"> <li>• Cooperative Learning &amp; Interdependence</li> <li>• Idioms, Adages (<i>Poor Richard's Almanac, Common Sense</i>)</li> <li>• Computer programming/</li> <li>• Visit by Peter Lourie, "The power of storytelling."</li> <li>• Propaganda, commercials, persuasive multi-media</li> </ul>
Evaluation (includes but is not limited to...)	<p><b>Big Question Part 1:</b> <i>What's in a Story?</i> Using knowledge of story elements, students compose a chapter book/novel</p> <p><b>Big Question Exhibition Part 2:</b> present at literary symposium &amp; tea in April</p> <p><b>Design Thinking:</b> colony model design group project</p> <p><b>Written Report:</b> Colonial trades, ship's Captain log</p> <p><b>Poetry Contest:</b> all submit to PV Library or other contest</p> <p><b>Daily Anecdotal:</b> creativity, curiosity, collaboration, cultivation, citizenship, communication, critical thinking</p>

<b>Big Question #5: <i>Is Conflict a Means to An End?</i></b>		<b>March 23 – June 7</b>
Science	<p><b>Life Science:</b> animal &amp; plant physiology (e.g. respiration, photosynthesis), body systems and animal reproduction, astronomy, the scientific method; students perform their own investigations using the process using science content, or by developing a social studies hypothesis (sociology)</p> <p><b>Hands-On Science:</b> on-going field work in biology, summarize year-long findings, present to Cindy Wilber, cryogenics</p>	
Social Studies	<p><b>History &amp; Economics:</b> course and consequences of the American Revolution; Westward expansion, immigration and settlement patterns of the American people, the US Constitution, structure and function of federal government <i>The History of US</i>, (Vol. 4-5) Joy Hakim</p> <p><b>Civics:</b> 50 states and their capitals (?)</p>	
Math	<p><b>Geometry:</b> attributes of 2-D figures, classify 2-D figures by attributes</p> <p><b>Measurement of Data:</b> volume of solid figures, unit cube to measure volume and capacity, using appropriate units, +, -, x, ÷ to solve volume problems, find volume of right-rectangular prism (associative property), volume of two connected 3-D figures, use formulas <math>V = l \times w \times h</math> or <math>V = B \times h</math>.</p> <p><b>In Addition:</b> multi-step problems, measuring and drawing angles, ratios and proportions, rates</p> <p><b>Open Response:</b> Various resources</p> <p><b>Practice:</b> Khan Academy and other online sources</p>	
Reading	<p><b>Reading Comprehension:</b> fluency, accuracy, self-correction, comprehension at or above grade level, point-of-view, visualization, triangulate information, synthesize &amp; summarize, persuasive techniques</p> <p>Guided Reading:</p> <ul style="list-style-type: none"> <li>• Jr. Great Books &amp; shared inquiry <a href="#">The 100-Dollar Bill</a> ❶ p.167, <a href="#">Oliver Hyde's Dish Cloth Concert</a> ❶, p. 137</li> <li>• Novel: <i>My Brother Sam is Dead</i>, James Collier &amp; Christopher Collier, <i>True Confessions of Charlotte Doyle</i>, Avi.</li> </ul> <p><b>Vocabulary:</b> add to vocabulary cards, use precise and specific vocabulary, details</p> <p><b>Structural Features of Text:</b> Headings, index, glossary, table of contents</p>	
English & Language Arts	<p><b>English:</b> Mastery of Standard English conventions</p> <p><b>Writing Applications:</b> POV (essay) pieces, coherence, writing process (revise, edit, proofread)</p> <p><b>Writing Instruction:</b> <i>Writing Using Children's Literature</i> Lessons 12-18</p> <p><b>Mapping Strategies:</b> Use self-selected mapping as essential prewriting tool</p> <p><b>Written &amp; Oral English Language:</b> standard English conventions, adapt speech to situation, collaborate, provide well-researched opinion</p> <p><b>Speaking Applications:</b> exhibition; poised and articulate presentation of research findings</p>	
Fine Arts	<p><b>Music:</b> work songs &amp; spirituals, <i>The Great Plains Songbook</i>, Steven Foster</p> <p><b>Art:</b> stitching on burlap, flag design, Kahlo/Rivera (Mexican War), scaling up, quilt making</p>	
Field Trips (scheduled and/or possible. Subject to change.)	<p><b>Curricular Tie-in:</b></p> <ul style="list-style-type: none"> <li>• Monterey Bay Aquarium</li> <li>• Jasper Ridge (3 of 3) Presentation of year-long data gathering project</li> <li>• Freedom Trail (April/May)</li> </ul>	

	<ul style="list-style-type: none"> <li>• Tide Pool (Half Moon Bay)</li> <li>• States Pageant</li> </ul>
Empathy	<b>Service Learning:</b> <ul style="list-style-type: none"> <li>• Self directed, expression of thanks</li> </ul>
Other	<b>Interpersonal and Other Skills Development</b> <ul style="list-style-type: none"> <li>• Cooperative Learning &amp; Interdependence</li> <li>• Understanding Reproduction – Chick Hatching Project</li> </ul>
Evaluation (includes but is not limited to...)	<b>Big Question #5 Exhibition - Point of View:</b> Point/Counter-Point project & public exhibition presentation <b>Design Challenge:</b> State Map, license plate, and headdress <b>Daily Anecdotal:</b> creativity, curiosity, collaboration, cultivation, citizenship, communication, critical thinking <b>Self Evaluation:</b> for progress report