

SAUSD Common Core Aligned Curriculum Map: 7th Grade Math Year-at-a-Glance

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Title	Time	Performance Task	Big Idea	Essential Questions	Resources
<p>Unit 1: Integers</p> <ul style="list-style-type: none"> Multiple Representations of a number Operations with Int. Order of Operations Algebraic Properties (Focus on processes not memorizing names) Absolute value <p>(Existing)</p>	<p>30 Days</p> <p>8/27 to 10/9</p>	<p>POM:</p> <ul style="list-style-type: none"> Calculating Palindromes Level A Level B Level C Level D Level E <p>Performance Task:</p> <ul style="list-style-type: none"> Illustrative Mathematics: Bookstore Account Svmimac.org Multiples of Five: 2011, 8th Number Calculations: 2007, 8th Smallest & Largest: 2006, 6th 	<p>Overarching: Order has a purpose</p> <p>Topical: Any number, measure, numerical expression, algebraic expression, or equation can be represented in an infinite number of ways that have the same value.</p> <p>For a given set of numbers there are relationships that are always true, and these are the rules that govern arithmetic and algebra.</p>	<ul style="list-style-type: none"> How many different ways can a number be represented? How can operations with integers be illustrated in multiple ways? (Models, verbally, and symbolically) How can expressions with the same terms and operations have different values? What's the difference between the opposite and the absolute value of a number? 	<p><u>Adopted Text CGP</u></p> <p>231 – +/- Integers & Decimals 232 – x / Integers 113 – Order of Ops & Distributive Property 115 – Associative & Commutative Props. 114 – Identity & Inverse properties 221 – Absolute Value 222 – Solving Problems using Absolute Value</p> <p><u>Instructional Resources</u></p> <ul style="list-style-type: none"> Order of Operations (& Distributive Property) IMP: Discovering Properties (4.0, 4.1, 4.2) <p><u>Additional Resources</u></p> <ul style="list-style-type: none"> Video: Discovery Streaming-Introduction to integers.mov (see site for more) IMP: Discovering Properties (4.3.1, 4.3.2) Integer War (Cards or dice) (needs directions) Algebra/ 2-color tiles for review IMP: Number Line (4.0- 4.2) SAM:
<p>Unit 2: Expressions (6th grade CCSS UoS) (New)</p> <ul style="list-style-type: none"> Define/ Simplify, Evaluate Numeric vs 	<p>16 Days</p> <p>10/10</p>	<p>POM:</p> <ul style="list-style-type: none"> Digging Dinosaurs Level A Level B Level C Level D 	<p>Overarching: Precise language allows for clear expression of ideas.</p> <p>Topical: Mathematical situations and structures</p>	<ul style="list-style-type: none"> When would an algebraic expression verses a numeric expressions be used? When is it appropriate to use an expression verses 	<p><u>Adopted Text CGP</u></p> <p>111 – Variables and Expressions 112 –Simplifying Expressions 121 – Writing Expressions</p> <p><u>Instructional Resources</u></p>

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<p>algebraic</p> <ul style="list-style-type: none"> Translating expressions 	<p>to 10/31</p>	<ul style="list-style-type: none"> Level E <p>Performance Task: (Secure Materials)</p> <ul style="list-style-type: none"> MARS Task: Toy Trains (Inside Mathematics) Illustrative Mathematics: Writing Expressions Illustrative Mathematics: Guess My Number 	<p>can be translated and represented abstractly using variables, expressions, and equations.</p>	<p>an equation?</p>	<ul style="list-style-type: none"> Variables with Food IMP: Word Problem Expressions (2.1) IMP: Evaluating Expressions with Tiles (1.2) IMP: Solving Linear Equations (1.0) 1.1 IMP: Solve my problems (2.2) 6th Grade UoS <p><u>Additional Resources</u></p> <ul style="list-style-type: none"> Tree Map: Operation Vocabulary IMP: Word Wall 2.3
<p>Unit 3: Linear Patterns & Equations</p> <ul style="list-style-type: none"> Patterns (Graphs, tables, equation, context-interrelationship) Rate of Change =slope Graph equations (4Q) Represent relationships graphically Write equations Solve linear equations in multiple ways (graph, table, algebraically) Find the equation from 2 pts. 	<p>25 Days</p> <p>11/4 to 12/9</p>	<p>POM:</p> <p>Growing Staircases</p> <ul style="list-style-type: none"> Level A Level B Level C Level D Level E <p>Performance Task:</p> <ul style="list-style-type: none"> MARS Task: Party (Inside Mathematics) Svmimac.org Lattice Fence: 2012, 6th European Trip: 2010, 7th Presidents: 2012, 7th 	<p>Overarching: Patterns allow for prediction</p> <p>Topical: Relationships can be described and generalizations made for mathematical situations that have numbers or objects that repeat in predictable ways.</p>	<ul style="list-style-type: none"> Can all patterns be built? How many ways can a pattern be represented? How can graphs be used to describe relationships and interpret real-world situations? How can one representation of a function help predict the others? (Graphs, tables, equation, context) 	<p><u>Adopted Text CGP</u></p> <p>411 – Graphing equations 413 – Slope Key 123 Solving One-Step Equations 124 – Solving Two-Step Equations 125 –More two-step Equations 126 –Applications of Equations 127 –Understanding Problems</p> <p><u>Instructional Resources</u></p> <ul style="list-style-type: none"> Brad Fulton: Patterns and Function Connection book Linear Functions (Carr Packet) IMP: Day3-5 Solving Linear Equations IMP: Toothpicks 2.2 <p><u>Additional Resources</u></p> <ul style="list-style-type: none"> S. Mercer Unit Y=mx+b Word Problems

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<ul style="list-style-type: none"> • Interpret graphs • Collect & interpret data • Distance, Rate, Time • Simple Interest <p>(Existing)</p>					<ul style="list-style-type: none"> • SAM: • Cockroach Condos Activity • Line Up with Math (NASA Engineering Lessons) http://smarts skies.nasa.gov/li neup/
<p>Unit 4: Proportional Relationships UoS</p> <ul style="list-style-type: none"> • Define, Concept, usage • Solve • Graph • Unit Rate • Percent of a number (Mark-up, Discounts, Tips, Tax Commission...) • Constant of Proportionality • Scale drawings of geometric figures 	<p>20 Days</p> <p>12/10 to 1/29</p>	<p>POM: Measuring Up</p> <ul style="list-style-type: none"> • Level A • Level B • Level C • Level D • Level E <p>Performance Task:</p> <ul style="list-style-type: none"> • Illustrative Mathematics: Climbing the Steps of El Castillo • Illustrative Mathematics: Sale • Illustrative Mathematics: Track Practice • Svmimac.org To Buy or Not to Buy: 2012, 7th Population: 2011, 7th Rate Concentrate: 2012, 6th 	<p>Overarching: Relationships serve a purpose</p> <p>Topical: If two quantities vary proportionally, that relationship can be represented in multiple ways</p>	<ul style="list-style-type: none"> • What does a specific point on a graph (x,y) represent? • How can 2 quantities be identified as proportional? • How can proportions be used to solve real-world problems involving percents? (Mark-up, Discounts, tips, tax commission, scaling) • How can proportions be used to reproduce scaled drawings of geometric figures? 	<p>Adopted Text CGP</p> <p>421 – Ratios & Rates 422 –Graphing Ratios & Rates 423 –Speed, Distance & Time 424 –Direct Variation 431 –Converting Measures 432 –Converting between Unit Systems 433 – Dimensional Analysis 434 – Converting Between Units of Speed 811 – Percents 812 – Changing Fraction & Decimals to Percents 813 – Percent Increases & Decreases 821 – Discounts & Markups 822 – Tips, Tax & Commission 823 - Profit 824 – Simple Interest</p> <p>Instructional Resources</p> <ul style="list-style-type: none"> • IMP: Percent 1.0, 1.1, 1.2 • IMP: Percent 3.0 – 3.1 • IMP: Percent 4.0 – 4.2 • IMP: Percent 5.0, 5.0, 5.1 5.2, 5.3 <p>Additional Resources</p> <ul style="list-style-type: none"> • IMP: Percent 2.0 – 2.3 • IMP: Percent 6.0 – 6.2

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					<ul style="list-style-type: none"> IMP: Percent 7.0 – 7.3 IMP: Percent 8.0 – 8.2 S. Mercer: 7th Proportion Rates 7th Proportions, Rates (Carr)
<p>Unit 5: Exponents (Existing)</p> <ul style="list-style-type: none"> Exponents as patterns (repeated mult.) Square roots (estimating) Pythagorean Theorem (equation only) Rational vs. Irrational #s Operations w/exponents <ul style="list-style-type: none"> Exponents rules Fractions to a power Powers to a Power Scientific notation 	<p>20 Days</p> <p>1/30 to 3/3</p>	<p>POM: Double Down</p> <ul style="list-style-type: none"> Level A Level B Level C Level D Level E <p>Performance Task:</p> <ul style="list-style-type: none"> Illustrative Mathematics: Estimating Square Roots Svmimac.org Jane's TV: 2011, 8th Odd Numbers: 2008, 7th 	<p>Overarching: Patterns have segments that are repeated</p> <p>Topical: Terms that include repeated multiplication or division can be simplified using exponents.</p>	<ul style="list-style-type: none"> How can exponential terms be represented in multiple ways? How are rational and irrational numbers similar and different? How can exponential models be differentiated from linear models using real world data? How can very large and very small numbers be represented using exponents? How can exponents be used to predict a right triangle? 	<p><u>Adopted Text CGP</u> 251–Powers of Integers 252–Powers of Rat. #s 253 Uses of Powers examples 1-3 511–Multiplying w/Powers 512 – Dividing w/Powers 513 –Fractions w/ Powers (optional) 521–Negative & 0 exp. 522 –Using negative exponents 523–Scientific Notation 531–Multiplying Monomials 532 –Dividing Monomials 533 –Powers of Monomials 534 –Square Roots of Monomials 211 –Rational Numbers 261 – Perfect Squares & their Roots 262 –Irrational Numbers 263 –Estimating Irrational Roots</p> <p><u>Instructional Resources</u></p> <ul style="list-style-type: none"> IMP: Exponents 1.0 – 1.2 IMP: Exponents 2.0 – 2.3 IMP: Exponents 4.0 – 4.2 IMP: Exponents 5.0 – 5.2 IMP: Exponents 6.0 – 6.2 IMP: Exponents 7.0 – 7.2 IMP: Exponents 8.0 – 8.3 (Check CC) IMP: Exponents 9.0 – 9.1 <p><u>Additional Resources</u></p> <ul style="list-style-type: none"> IMP: Exponents 3.0 – 3.3

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					<ul style="list-style-type: none"> • IMP: Exponents 7.3 • 7th Exponents 2011-2012
<p>Unit 6: Geometry (Existing)</p> <ul style="list-style-type: none"> • Congruency • Volumes of prisms and cylinders, Rectangular prisms • Area of regular polygons 	<p>7 Days</p> <p>3/4 to 3/14</p>	<p>POM:</p> <p>Do the Tessellation</p> <ul style="list-style-type: none"> • Level A • Level B • Level C • Level D • Level E <p>Performance Task:</p> <ul style="list-style-type: none"> • Illustrative Mathematics: 7G Floor Plan • Svmimac.org Similar Figures: 2012, 7th Unfolding a Box: 2012, 6th Tiling Patterns: 2010, 6th 	<p>Overarching: Relationships serve a purpose Everything is related in some way</p> <p>Topical: Geometric figures can be compared by their relative values</p>	<ul style="list-style-type: none"> • How can proportions be used to test for congruency and similarity? • How is the area of a 2-dimensional figure related to the volume of a 3-dimensional figure? • What are some real-world applications involving area & volume? 	<p>Adopted Text CGP</p> <p>346 – Congruence & Similarity 721 – Volumes 312 – Area of Polygons 314 – Area of Irregular Shape</p> <p>Instructional Resources</p> <ul style="list-style-type: none"> • IMP: GBB Geonets • IMP: Good, Better, Best Container <p>Additional Resources</p> <ul style="list-style-type: none"> • Isometric Drawing http://www.tttpress.com/uploads/2/0/4/2/20424731/isometric_drawing.pdf
<p>Unit 7: Statistics (Existing)</p> <ul style="list-style-type: none"> • Stem and leaf • Box and whisker • Scatter plot 	<p>5 Days</p> <p>3/17 to 3/21</p>	<p>POM:</p> <p>Through the Grapevine</p> <ul style="list-style-type: none"> • Level A • Level B • Level C • Level D • Level E <p>Performance Task:</p> <ul style="list-style-type: none"> • Illustrative Mathematics: Puppy Weights • Svmimac.org Archery: 2009, 7th 	<p>Overarching: Order may allow for prediction</p> <p>Topical: Data can be used to predict future events</p>	<ul style="list-style-type: none"> • How can data sets be used to predict future events? 	<p>Adopted Text CGP</p> <p>611 – Median & Range 612 – Box & Whisker Plots 614 – Stem & Leaf Plots 621 – Making Scatter Plots 622 – Shapes of Scatter Plots</p> <p>Instructional Resources</p> <p>Additional Resources</p>

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		A New Car: 2011, 8th Speech Speeds: 2011, 6th Freezing in Fargo: 2012, 6th			
CST Review	10 days 3/24 To 4/4	CST window set tentatively for mid to late April	Spring Break 4/7 to 4/11	•	
Unit 8: Probability (after CST) UoS to be developed further <ul style="list-style-type: none"> • Random Sampling (to draw inferences about a population) • Draw Comparative inferences about 2 populations • Investigate chance processes (develop, use, and evaluate probability models) 	15 Days After CST	POM: Fair Game <ul style="list-style-type: none"> • Level A • Level B • Level C • Level D • Level E Performance Task: <ul style="list-style-type: none"> • Illustrative Mathematics: Rolling Dice • Svmimac.org How I Roll: 2012, 7th Will It Happen: 2008, 7th 	Overarching: Order may allow for prediction Topical: Some questions can be answered by collecting and analyzing data, and the question to be answered determines the data that needs to be collected and how best to collect it.	<ul style="list-style-type: none"> • How can random sampling be used to draw inferences about a population? • How can a model be used to predict the probability of an event occurring? 	Adopted Text CGP <ul style="list-style-type: none"> • NA Instructional Resources <ul style="list-style-type: none"> • IMP: Building A Winning Die • IMP: Choosing Pair of Dice • IMP: I'm on a Roll • IMP: Spinner Mania Additional Resources <ul style="list-style-type: none"> • Inside Math: Fair Game <p>Activity for definition incorporate: The chance of an event occurring can be described numerically by a number between 0 and 1 inclusive and used to make predictions about other events.</p>

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