Los Angeles Unified School District Office of Curriculum, Instruction, and School Support 2013-2014 Elementary Curriculum Maps Grade 5

Introduction to the Document:

Welcome to the Los Angeles Unified School District's Elementary Mathematics CCSS Curriculum Map for Grade 5. The Map is intended to be a one-stop tool for teachers, administrators, parents, and other school support personnel. It blends and organizes Common Core State Standards in Mathematics, enVisionMATH Topics which address those standards, additional resources and Instructional Blocks into one easy-to-read resource. The Map is a living document—it is neither set in stone for all time nor is it perfect. Teachers and other users are encouraged to provide on-going feedback as to its accuracy, usability, and content.

Organization of the Document:

This Curriculum Map for Mathematics has been organized in several ways to provide flexibility to teachers in planning instruction. Teachers and other users are encouraged to review the various versions and to choose the one that best fits their instructional planning needs.

Under the section Organized by Standards, the Mathematical Content and Practice standards are listed as they are found in the Common Core State Standards. In this section, teachers and other users will be able to see at a glance the mathematics domains, clusters, and standards for the grade level, and in which textbook topics (chapters) the standards can be found.

Under the section Organized by Instructional Block, the standards are listed in the developmental sequence outlined in the CA enVision MATH series. More complex standards are parsed out over multiple Instructional Blocks to allow students time to develop their understanding of the concept and the essential skills they will need in order to be successful.

Symbols and Footnotes:

Additional key information has been embedded into this map to assist teachers and others in instructional decision-making.

General Calendar for Instruction and Assessment:

The four Instructional Blocks (IB) and their periodic assessments reflect the standards or portions of the standards as indicated in the Organized by Instructional Block portion of the map. The map is designed to ensure full instruction and assessment of the grade level standards by the end of the school year.

Using the Mathematics Curriculum Map:

The map can be thought of as a menu. It cannot be expected that one would do every lesson and activity from the instructional resources provided. To try to teach every lesson or use every activity would be like ordering everything on a menu for a single meal. It is not a logical option. Nor is it possible given the number of instructional days and the quantity of resources. And, like a menu, teachers select, based on instructional data, which lessons best fit the needs of their students – sometimes students need more time with a concept and at other times, less.

Look at the "Organized by Instructional Block" chart. From there, teachers would map out how much time they feel is needed to teach the concepts within the block based on the data of their students' needs. For example, some classes may need more time devoted to Number and Operations in Base Ten concepts, while another class at the same grade level may need more focused time on Operations and Algebraic Thinking within an Instructional Block.

Then look at the "Organized by Standards" chart. Match the standard to the recommended Resources in enVision and the Additional Resources materials.

The starting point for instructional planning is the standards. The textbook resources are tools for teachers in helping to teach the standards. Like going to a restaurant specializing in customer service, there may be times one wishes to order "off-the-menu". There are hundreds of resources available, both publisher- and teacher-

created, that may be used to best teach a concept or skill. Collaborative planning, both within and among grade levels, is strongly encouraged in order to design effective instructional programs for students.

A Guide to the Headings:

Big Ideas are based on the most current research in mathematics education and are included in each cluster to highlight the key learning across the grades to support coherence. **Enduring Understandings** are important understandings that have lasting value, linking lessons and units to the Big Ideas.

The Domains are the larger groups of related standards and clusters.

The **Clusters** are groups of related standards.

The Standards for Mathematical Content define what students should know and be able to do.

The **Standards for Mathematical Practice** describe the varieties of expertise that mathematics educators at all levels should seek to develop in their students. They are the *habits of mind* to be developed, along with the content, in effective mathematics instruction. In any math task, all eight standards may be present, but some practice standards are more naturally paired with some content standards, and those matches are called out here.

The **Resources** may be teacher-guided, whole class activities or activities engaged in by students independently of the teacher, and can take place in small groups, pairs, or individually.

The Formative Assessments are intended to assist the teacher in providing data to guide instruction.

The **Domain Legend** explains the key that sorts the clusters into Major (\blacktriangle), and Supporting or Additional (s/a), as denoted by the authors of the CCSS, and used by the testing services Smarter Balanced and PARCC. The

standards will be assessed with 70% of the assessment on the major clusters, 20% on the supporting clusters, and 10% on the additional clusters. There may be a temptation to minimize instruction of the additional clusters, but it is important to teach all the standards, as this may be the only grade level where the standard is taught.

Additional Support contains:

- Language Objectives and Supports to assist with English Learners and Standard English Learners, and which include elements from the English Language Development Framework
- Essential Questions which engage the students with interacting with the Big Ideas
- Key Vocabulary

Literature Connections highlight read-alouds and student-read books which connect to the domain. The books published by WorldScapes Readers are part of the enVision MATH classroom library.

Daily Routines call out the classroom practices within the particular Domain. They may last through the whole year, or only through that Instructional Block or Domain. Some Daily Routines are explicitly taught in *The First Ten Days of School*, available on the math website.

- Number Talks help students engage in mental math, more information is available at: http://www.insidemathematics.org/index.php/classroom-video-visits/number-talks
- Number Strings is a set of related math problems, more information is available at: <u>http://numberstrings.com/about/</u>
- Daily Oral Language and Cognitively Guided Instruction (DOL and CGI) is a way for students to understand the language of the math problem by finding and correcting errors in the writing of the problem, before solving the math problem. CGI problems are constructed to guide students' learning processes, rather than telling students how to solve problems. A video module is available at: <u>http://math.lausd.net/elementary/professional-development</u> Scroll to: EL Strategies for Math: DOL/CGI Module

Differentiation (III) falls into three categories:

- Front Loading: strategies to make the content more accessible to all students, including EL, SEL and students with special needs.
- Intervention: alternative methods of teaching the standards, in which all students can have a second opportunity to connect to the learning, based on their own learning style
- Enrichment: activities to extend the content for all learners, as all learners can have their thinking advanced, and to support the needs of GATE students. "Enrichment" for gifted or high ability students should not be interpreted as "extra work" or simply acceleration of pacing or content. Effective differentiation begins with a pre-assessment of academic readiness (enVision MATH provides many opportunities for assessment), interest and learning style, which allows the teacher to make informed choices about modifying the core curriculum to meet the individual needs of students. Differentiation for gifted students includes: depth, complexity acceleration, and novelty. Specific instructional strategies may include the prompts of depth and complexity, curriculum compacting, tiered lessons, project-based learning and independent study. GATE students should be challenged.

Additional Documents:

An Appendix to the Curriculum Maps includes:

• First Ten Days of School for Grade 5 to introduce classroom management and new learning opportunities, including problem-solving strategies and daily routines.

Critical Areas:

In Grade 5, instructional time should focus on three critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

- Students apply their understanding of fractions and fraction models to represent the addition and subtraction
 of fractions with unlike denominators as equivalent calculations with like denominators. They develop
 fluency in calculating sums and differences of fractions, and make reasonable estimates of them.
 Students also use the meaning of fractions, of multiplication and division, and the relationship between
 multiplication and division to understand and explain why the procedures for multiplying and dividing
 fractions make sense. (Note: this is limited to the case of dividing unit fractions by whole numbers and
 whole numbers by unit fractions.)
- Students develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations. They finalize fluency with multi-digit addition, subtraction, multiplication, and division. They apply their understandings of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths. They develop fluency in these computations, and make reasonable estimates of their results. Students use the relationship between decimals and fractions, as well as the relationship between finite decimals and whole numbers (i.e., a finite decimal multiplied by an appropriate power of 10 is a whole number), to understand and explain why the procedures for multiplying and dividing finite decimals make sense. They compute products and quotients of decimals to hundredths efficiently and accurately.
- Students recognize volume as an attribute of three-dimensional space. They understand that volume can be
 measured by finding the total number of same-size units of volume required to fill the space without gaps
 or overlaps. They understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring
 volume. They select appropriate units, strategies, and tools for solving problems that involve estimating
 and measuring volume. They decompose three-dimensional shapes and find volumes of right
 rectangular prisms by viewing them as decomposed into layers of arrays of cubes. They measure
 necessary attributes of shapes in order to determine volumes to solve real world and mathematical
 problems.

Special Thanks: The CCSS-aligned Curriculum Maps were developed under the auspices of Gerardo Loera, Executive Director of the Office of Curriculum, Instruction and School Support, and Dr. Susan Tandberg, Director of the Office of Curriculum, Instruction and School Support. There are many individuals who participated in the creation of this document, including reviewing and field-testing. We wish to thank everyone, especially: Mark Duncan, Charity Weber, Daniel Kim, Dina Williams, Lisa Ward, Jose Dorado, Leo Angulo, Evelyn Samos, Shirley Guzman, Dr. Philip Ogbuehi, Caroline Piangerelli, Judy Carrillo, Karima Fuentes, Deborah Atwell, Norma Cantu, Brian Olona, Joseph Espinosa, Cari Chi, Henrietta Fai, Charles Cho and Beverly Nichols.



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Elementary Mathematics Grades 3-5 Timeline 2013-14 CCSS Curriculum Map by enVision MATH **Topic** (to be used in connection with the Curriculum Map by Common Core **Standard**)

	Ser	nester 1	Semester 2
Gr	IB 1: 8/13-10/18/2013	IB 2: 10/21 – 12/20/2013	IB 3: 1/13 – 6/5/2014
3	1: Numeration	7: Multiplication facts	14: Multiply greater numbers
	2: Rounding	8: Multiplication facts	15: Divide by 1-digit
	3: Add whole numbers	9: Division concepts	16: Measurement
	4: Subtract whole numbers	10: Division facts	17: Metric measurement
	5: Solids and shapes	11: Patterns and relationships	18: Perimeter, area, volume
	6: Multiplication concepts	12: Fraction concepts	19: Decimals and money
		13: Add/subtract fractions	20: Dat<mark>a and Prob</mark>ability (use
			transition Graphing lessons)
4	1: Numeration	7: Divide by 1-digit	13: Solving equations
	2: Addition/subtraction	8: Geometry	14: Integers
	3: Multiplication/division	9: Fraction concepts	15 <mark>: Meas</mark> urement
	4: Multiply by 1-digit	10: Add/subtract fractions	16: Data and graphs
	5: Variables and expressions	11: Fraction/decimal concepts	17: Length and coordinates
	6: Multiply by 2-digit	12: Operations with decimals	18: Formulas and equations
			19: Congruence/symmetry
			20: Probability
5	1: Numeration	8: Shapes	13: Length, perimeter, area
	2: Addition/subtraction	9: Factors and multiples	14: Solids
	3: Multiplication	10: Fractions, mixed numbers	15: Integers
	4: Division	11: Add/subtract fractions	16: Solving equations
	5: Variable and expressions	12: Operations with fractions	17: Percent
	6: Multiplying decimals		18: Equations and graphs
	7: Dividing decimals		19: Graphs and data (use Graphs: Line
			Plots transition lessons)
			20: Constructions

DOMAIN: Operations and Algebraic Thinking

CLUSTER: Write and interpret numerical expressions. s/a

Big Idea: For a given set of numbers there are relationships that are always true, called properties, and these are the rules that govern arithmetic and algebra. **Enduring Understandings:** There is an agreed upon order for which operations in a numerical expression are performed.

Big Idea: Mathematical situations and structures can be translated and represented abstractly using variables, expressions, and equations. **Enduring Understandings:** Some mathematical phrases can be represented using a variable in an algebraic expression.

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.0A.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP5 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 5-3 More Patterns and Expressions 5-4 Distributive Property 5-5 Order of Operations enVisionMATH Common Core Standards Practice Workbooks pp. CC1-2 Illustrative Mathematics Watch Out for Parentheses http://www.illustrativemathematics.org/illustrations/555 Using Operations and Number http://www.illustrativemathematics.org/illustrations/1596 NC Department of Public Instruction S.OA.1 Task 1.doc, Target Number S.OA.1 Task 2.doc, Expression Sets S.OA.1 Task 3.doc, Leigh's Strategy http://3-5cctosk.ncdpi.wikispaces.net/5.OA.1-5.OA.2 	enVisionMATH CA • Quick Check 5-3, 5-4, 5-5 Transitioning to California's Common Core State Standards⊒ – Teacher Resource Masters • Topic 5 Test Master

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STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.0A.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation "add 8 and 7, then multiply by 2" as 2 x (8 + 7). Recognize that 3 x (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP5 Use appropriate tools strategically. MP8 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 5-1 Variables and Expressions 5-2 Patterns and Expressions 5-3 More Patterns and Expressions enVisionMATH Common Core Standards Workbook pp. CC3-4 Illustrative Mathematics Words to Expressions 1 http://www.illustrativemathematics.org/illustrations/556 Video Game Scores http://www.illustrativemathematics.org/illustrations/590 Comparing Products www.illustrativemathematics.org/illustrations/139 Seeing is Believing http://www.illustrativemathematics.org/illustrations/1222 NC Department of Public Instruction S.O.A.2 Task 3.doc, Seeing is Believing http://3-5cctask.ncdpi.wikispaces.net/5.OA.1-5.OA.2 	enVisionMATH CA • Quick Checks 5- 1, 5-2, 5-3 Transitioning to California's Common Core State Standards⊒ – Teacher Resource Masters • Topic 5 Test Master

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CLUSTER: Analyze patterns and relationships. s/a

Big Idea: Relationships can be described and generalizations made for mathematical situations that have numbers or objects that repeat in predictable ways. For some relationships, mathematical expressions and equations can be used to describe how members of one set are related members of a second set. **Enduring Understandings:** Patterns can sometimes be used to identify a relationship between two quantities. Some real-world quantities have a mathematical relationship; the value of one quantity can be found if you know the value of the other quantity. Patterns that repeat in predictable ways may be used to identify relationships.

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.0A.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP6 Attend to precision. MP8 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 18-1 Ordered Pairs (one quadrant) 18-2 Line Graphs enVisionMATH Transitioning to California's Common Core State Standards – Teacher Edition = 5-4A Patterns: Extending Tables 18-3A Patterns and Graphing enVisionMATH Common Core Standards Practice Workbooks pp. CC5-6 NC Department of Public Instruction 5.OA.3 Task 1.doc, Dan's Bicycle 5.OA.3 Task 2.doc, Farmer Brown's Barn http://3-5cctask.ncdpi.wikispaces.net/5.OA.3 	 enVisionMATH CA Quick Checks 18-1, 18-2 Transitioning to California's Common Core State Standards - Teacher Resource Masters Quick Checks 5-4A, 18-3A Topic 5 Test Master

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Domain Legend

- A Major Cluster: Areas of intensive focus, where students need fluent understanding and application of the core concepts (approximately 70%)
- s Supporting Cluster: Rethinking & linking; some material is being covered, but in a way that applies core understandings (approximately 20%)
- a Additional Cluster: Expose students to other subjects, may not connect explicitly to the major work of the grade (approximately 10%)
- Online resource located at PearsonSuccessNet.com, click Other Resources

ADDITIONAL SUPPORT

ESSENTIAL QUESTIONS	LANGUAGE OBJECTIVES AND SUPPORTS	KEY VOCABULARY
 How is the value of a numerical expression found? 	 Students will explain orally and in writing the sequences they followed in determining the values of numerical expressions, using target vocabulary and complex sentences. (Teacher may refer students to math word wall for support.) 	Algebraic expressions Coordinate plane Data Distributive Property Evaluate
2. How can a rule be found and written as an expression?	2. Students will explain in writing how a rule can be found and written as an expression by using indicative verbs in declarative sentences. (Teachers may allow students time to orally rehearse their answer with a partner before engaging in writing.)	Graph Linear Equation Order of operations Ordered pair Origin Parenthesis (parentheses)
3. How are rules for number patterns represented on the coordinate plane?	3. Students will sequentially explain to a small group how to graph ordered pairs that follow a rule using targeted mathematical language and complex sentences. (Teacher may refer students to math word wall for support.)	Sequence Table Term Variable x-axis y-axis

DAILY ROUTINES

Head Problems

• Daily Oral Language with CGI Problems

Number Talks

LITERATURE CONNECTIONS

• Keeping Records by WorldScape Readers

DIFFERENTIATION

FRONT LOADING	ENRICHMENT	INTERVENTION
 enVisionMATH CA Universal Access Topic 5, EL, Special Education, At-Risk, pp. 110G-H The Language of Math Topic 5, p. 110I-J 	enVisionMATH CA • Universal Access – Topic 5, Advanced, p. 110H Illustrative Mathematics • Bowling for Numbers http://www.illustrativemathematics.org/illustrations/ 969	 enVisionMATH CA Math Diagnosis and Intervention System: Booklet F, Grades 4-6 Expressions with Parentheses. Pp. 131-132 Order of Operations, pp. 133-134 Using the Distributive Property, pp. 135-136 Properties of Operations, pp. 137-138 Variables and Expressions, pp. 139-140

DOMAIN: Number and Operations in Base Ten

CLUSTER: Understand the place value system. **A**

Big Idea: The base ten numeration system is a scheme for recording numbers using digits 0-9, groups of ten, and place value. **Enduring Understandings:** Our number system is based on groups of ten. Whenever we get 10 in one place value, we move to the next greater place value.

Big Idea: Numbers, expressions, measures, and objects can be compared and related to other numbers, expressions, measures, and objects in different ways. **Enduring Understandings:** Place value can be used to compare and order whole numbers and decimals.

Big Idea: The set of numbers is infinite and ordered. Whole numbers and decimals are real numbers. Each real number can be associated with a unique point on the number line.

Enduring Understandings: A number line can be used to round whole numbers and decimals by making it easy to see which multiple of 10, 100, etc., or of 0.1, 0.01, etc., a number is closest to.

Big Idea: Numbers can be approximated by numbers that are close. Numerical calculations can be approximated by replacing numbers with other numbers that are close and easy to compute with mentally.

Enduring Understandings: There is more than one way to estimate a sum or difference. Each estimation technique gives one way to estimate by replacing numbers with other numbers that are close and easy to compute with mentally.

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.NBT.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what s represents in the place to its left.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP5 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 1-1 Place Value 1-3 Decimal Place Value enVisionMATH Common Core Standards Practice Workbooks pp. CC7-8 Illustrative Mathematics Kipton's Scale http://www.illustrativemathematics.org/illustrations/1562 	enVisionMATH CA • Quick Checks 1-1, 1-3 • NC Department of Public Instruction • 5.NBT.1 Task 1.doc, Value of a Digit • 5.NBT.1 Task 2.doc, Danny and Delilah http://3- 5cctask.ncdpi.wikis paces.net/5.NBT.1- 5.NBT4

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STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.NBT.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP6 Attend to precision. MP7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 6-1 Multiplying Decimals by 10, 100, or 1,000 7-1 Dividing Decimals by 10, 100, or 1,000 enVisionMATH Transitioning to California's Common Core State Standards – Teacher Edition = 6-2A Multiplying Decimals by 10, 100, or 1,000 (use transition student edition, pp. 4-5) 7-2A Dividing Decimals by 10, 100, or 1,000 (use transition student edition, pp. 6-7) enVisionMATH Common Core Standards Practice Workbooks pp. CC9-10 Illustrative Mathematics Marta' Multiplication Error http://www.illustrativemathematics.org/illustrations/1524 	enVisionMATH CA • Quick Checks 6-1, 7-1 enVisionMATH Transitioning to California's Common Core State Standards – Teacher Edition • Quick Checks 6- 2A, 7-2A NC Department of Public Instruction • 5.NBT.2 Task 1.doc, Veronica's Statement • 5.NBT.2 Task 2.doc, Distance from the Sun http://3- Scctask.ncdpi.wikis paces.net/5.NBT.1- 5.NBT4

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.NBT.3 Read, write and compare decimals to thousandths. 5.NBT.3a Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP6 Attend to precision. MP8 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 1-3 Decimal Place Value 10-7 Tenths and Hundredths 10-8 Thousandths enVisionMATH Common Core Standards Practice Workbooks pp. CC11-12 Inside Mathematics Grade 5 MARS Tasks: Decimals http://www.insidemathematics.org/index.php/number-and-operations-in-base-ten-nbt 	enVisionMATH CA • Quick Checks 1-3, 10-7, 10-8 CORE Math Performance Assessment Modules • Summer Olympics http://cep01.man aged.contegix.co m/display/SAI/CO RE+Math+Perform ance+Assessment +Modules NC Department of Public Instruction • 5.NBT.3 Task 1.doc, London Olympics • 5.NBT.3 Task 2.doc, Mike's Misconception http://3- 5cctask.ncdpi.wiki spaces.net/5.NBT. 1-5.NBT4

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STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.NBT.3b Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP6 Attend to precision. MP8 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	enVisionMATH CA 1-2 Comparing and Ordering Whole Numbers 1-4 Comparing and Ordering Decimals 1-5 Problem Solving: Look for a Pattern enVisionMATH Common Core Standards Practice Workbooks • pp. CC13-14	enVisionMATH CA • Quick Checks 1-2, 1-4, 1-5 NC Department of Public Instruction • 5.NBT.3 Task 1.doc, London Olympics • 5.NBT.3 Task 2.doc, Mike's Misconception http://3- 5cctask.ncdpi.wiki spaces.net/5.NBT. 1-5.NBT4

Appropriate enVisionMATH CA • 2.2 Rounding Whole Numbers and Decimals • 2.3 Estimating Sums and Differences • 2.3 Estimating Sums and Differences • 2.2 Rounding Whole Numbers and Decimals • 2.3 CORE Math Performance • PNISionMATH Common Core Standards Practice Workbooks • p., CC15-16 • Summer Olympics • Department of Public Instruction • SNBT 4 Task 2.40c, Rounding Possibilities • Mits//cep0.Iman • Mits Vice and Understee Summary State addresseree in an expression of the second state addresseree in a solution of the second state addresseree addreseree addresseree addresseree addresseree ad	STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	
	5.NBT.4 Use place value understanding to round decimals to any place.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP6 Attend to precision. MP8 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 2-2 Rounding Whole Numbers and Decimals 2-3 Estimating Sums and Differences enVisionMATH Common Core Standards Practice Workbooks pp. CC15-16 NC Department of Public Instruction S.NBT.4 Task 2.doc, Rounding Possibilities http://3-5cctask.ncdpi.wikispaces.net/S.NBT.1-5.NBT4 	enVisionMATH CA • Quick Checks 2-2, 2-3 CORE Math Performance Assessment Modules • Summer Olympics http://cep01.man aged.contegix.co m/display/SAI/CO RE+Math+Perform ance+Assessment +Modules NC Department of Public Instruction • 5.NBT.4 Task 1.doc, Is it Closer? • 5.NBT.4 Task 3.doc, Is Sam Correct? http://3- 5cctask.ncdpi.wiki spaces.net/5.NBT. 1-5.NBT4

DOMAIN: Number and Operations in Base Ten

CLUSTER: Perform operations with multi-digit whole numbers and with decimals to hundredths. **A**

Big Idea: There is more than one algorithm for each of the operations with rational numbers. Some strategies for basic facts and most algorithms for operations with rational numbers, both mental math and paper and pencil, use equivalence to transform calculations into simpler ones.

Enduring Understandings: There is more than one way to do a mental calculation. Models and algorithms for adding or subtracting multi-digit decimals are just an extension of models and algorithms for adding or subtracting multi-digit whole numbers. Estimation and place value can help determine the placement of digits.

Big Idea: For a given set of numbers there are relationships that are always true called properties, and these are the rules that govern arithmetic and algebra. **Enduring Understanding:** The properties of multiplication can be used to simplify computation and to verify mental math and paper and pencil algorithms.

Big Idea: Relationships can be described and generalizations made for mathematical situations that have numbers or objects that repeat in predictable ways. For some relationships, mathematical expressions and equations can be used to describe how members of one set are related to members or a second set. **Enduring Understandings:** Basic facts and place value patterns can be used to find products when one factor is 10 or 100. Using basic facts and place value patterns can be helpful in dividing or multiplying by multiples of 10. Using area models and arrays can help students understand the algorithm for dividing by 2-digit divisors. Patterns can be used to mentally multiply decimals by 10, 100 and 1,000. Knowledge of place value and division with whole numbers provides the foundation for division with decimals.

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.NBT.5 Fluently multiply multi-digit whole numbers using the standard algorithm.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP6 Attend to precision. MP7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 3-3 Multiplying by 1-Digit Numbers 3-4 Multiplying by 2-Digit Numbers 3-5 Estimating and Multiplying with Greater Numbers enVisionMATH Common Core Standards Practice Workbooks pg. CC17-18 	enVisionMATH CA • Quick Checks 3-3, 3-4, 3-5 CORE Math Performance Assessment Modules • School Supplies http://cep01.man aged.contegix.co m/display/SAI/CO RE+Math+Perform ance+Assessment +Modules Transitioning to California's Common Core State Standards⊒ - Teacher Resource Masters • Topic 3 Test Master

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.NBT.6 Find whole number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP5 Use Attend to precision. MP7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 4-1 Using Patterns to Divide 4-2 Estimating Quotients 4-3 Connecting Models and Symbols 4-4 Dividing by 1-Digit Divisors 4-5 Zeros in the Quotient 4-6 Dividing by 2-Digit Divisors 4-7 More Dividing by 2-Digit Divisors 4-8 Estimating and Dividing with Greater Numbers 4-9 Problem Solving: Draw a Picture and Write an Equation enVisionMATH Common Core Standards Practice Workbooks pg. CC19-20 NC Department of Public Instruction 5.NB1.6 Task 2.doc, Lion Hunt http://3-5cctask.ncdpi.wikispaces.net/5.NB1.5-5.NB1.7 	 enVisionMATH CA Quick Checks 4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-7, 4-8, 4-9 Performance Assessment, p. 107B enVisionMATH Common Core Standards Practice Workbooks Performance Task 2 - Town Beautification, pp. CC82-83, T30 Performance Task 3- Arts and Crafts, pp. CC98-99, T31 CORE Math Performance Assessment Modules School Supplies http://cep01.man aged.contegix.co m/display/SAI/CO RE+Math+Perform ance+Assessment +Modules

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STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.NBT.7 Add, subtract, and multiply and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties or operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP6 Attend to precision. MP7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	erVisionMATH CA 2-5 Adding Decimals 2-6 Subtracting Decimals 3-7 Problem Solving: Multiple-Step Problems 6-2 Multiplying a Whole Number and a Decimal 6-4 Multiplying Two Decimals 6-5 Multiplying a Decimal by a Whole Number 7-2 Dividing a Decimal by a Decimal 7-5 Problem Solving: Multiple-Step Problems enVisionMATH Common Core Standards Practice Workbooks • pg. CC21-22 Illustrative Mathematics • What is 23 ÷ 5 http://www.illustrativemathematics.org/illustrations/292 • The Value of Education http://www.illustrativemathematics.org/illustrations/1293 NC Department of Public Instruction • 5.NBI.7 Task 1.doc, Clay Boxes http://3-Scctask.ncdpi.wikispaces.net/5.NBT.5-5.NBI.7	 enVisionMATH CA Quick Checks 2- 5, 2-6, 3-7, 6-2, 6- 4, 6-5, 7-2, 7-4, 7- 5 Performance Assessment, Topic 6, p. 149B Performance Assessment, Topic 7, p. 169B Transitioning to California's Common Core State Standards - Teacher Resource Master Topic 6 Test Master Topic 7 Test Master Topic 7 Test Master Topic 7 Test Master Performance Task 2 - Town Beautification CORE Math Performance Assessment Modules Summer Olympics http://cep01.ma naged.contegix. com/display/SAI/ CORE+Math+Per formance+Assess ment+Modules

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Domain Legend

- A Major Cluster: Areas of intensive focus, where students need fluent understanding and application of the core concepts (approximately 70%)
- s Supporting Cluster: Rethinking & linking; some material is being covered, but in a way that applies core understandings (approximately 20%)
- a Additional Cluster: Expose students to other subjects, may not connect explicitly to the major work of the grade (approximately 10%)
- □ Online resource located at **PearsonSuccessNet.com**, click **Other Resources**

ADDITIONAL SUPPORT

ESSENTIAL QUESTIONS	LANGUAGE OBJECTIVES AND SUPPORTS	KEY VOCABULARY
 How are whole numbers and decimals written, compared and ordered? 	 Students will orally read and compare numbers very large and very small numbers (decimals) using place value vocabulary. (Teacher may provide opportunities for pair-share and place value charts for support.) 	Associative Property of Multiplication Base Commutative Property of Multiplication
2. How can sums and differences of decimals be estimated?	2. Students will describe how they estimated the sums and differences of decimals by using academic vocabulary. (Teacher may refer students to math word wall for support.)	Compatible numbers Compensation Digits Dividend Divisor
3. What are standard procedures for adding and subtracting whole numbers and decimals?	3. Students will explain orally and in writing their strategies for adding and subtracting whole numbers and decimals using transitional phrases, (ex: first, then, and finally). (Teacher may provide sentence frames for support.)	Equivalent decimals Exponent Exponential notation Factors Identity Property of
4. What are standard procedures for estimating and multiplying whole numbers?	4. Students will describe how they estimated the products of whole numbers by using academic vocabulary. (Teacher may refer students to math word wall for support.)	Multiplication Multiple Partial Product Power Product
5. What are standard procedures for dividing with two- digit divisors and why do they work?	5. Students will listen to a partner's explanation of the strategies of dividing with two-digit divisors in an efficient manner and ask clarifying questions to ascertain the reasonableness of the quotient using present and past tense verbs. (Teacher will circulate, recasting student responses.)	Quotient Rounding Standard form Word form Value Zero Property of Multiplication
6. What are standard procedures for estimating and finding products involving decimals?	Students will ask clarifying questions of their peers as to how they used standard procedure for estimating and	

ESSENTIAL QUESTIONS	LANGUAGE OBJECTIVES AND SUPPORTS	KEY VOCABULARY
7. What are the standard procedures for estimating and	finding products involving decimals, using present and past tense verbs. (Teachers may provide a variety of grouping structures to allow for various opportunities for language use.)	
finding quotients involving decimals?	 Students will sequentially explain how to estimate and how to find quotients involving decimals using targeted mathematical language and complex sentences. (Teacher may refer students to math word wall for support.) 	

DAILY ROUTINES

- Head Problems
- Number Talks

Daily Oral Language with CGI Problems

LITERATURE CONNECTIONS

- Keeping Records by WorldScape Readers
- Everest Adventures by Worldscape Readers

- Destination Hawaii by WorldScape Readers
- Keeping Records by WorldScape Readers
- Cruising the Caribbean by WorldScape Readers

DIFFERENTIATION

FRONT LOADING	ENRICHMENT	INTERVENTION
enVisionMATH CA	enVisionMATH CA	enVisionMATH CA
Universal Access	Universal Access	Math Diagnosis and Intervention System:
 Topic 1, EL, Special Education, At-Risk, pp. 	– Topic 1, Advanced, p. 2F	Booklet H, Grades 4-6
2E-F	– Topic 3, Advanced, pp. 50H	 Place Value Through Thousandths, pp. 131-132
– Topic 2, At-Risk, p. 22H	– Topic 4, Advanced, p. 76H	 Rounding Decimals Through Thousandths, pp.
 Topic 3, Special Education and At-Risk, pp. 	– Topic 6, Advanced, p. 134H	137-138
50G-H	– Topic 7, Advanced, p. 152F	 Comparing and Ordering Decimals Through
– Topic 4, At-Risk, p. 76H		Hundredths, pp. 139-140
 Topic 6, EL, At-Risk, pp. 134G-H 		 Comparing and Ordering Decimals Through
 Topic 7, EL, Special Education, At-Risk, pp. 		Thousandths, pp. 141-142
152E-F		 Using Models to Add and Subtract Decimals, pp. 187-188
 The Language of Math 		 Estimating Decimal Sums and Differences, pp.
 Topic 1 Vocabulary Activities, p. 2G 		189-190
 Topic 3 Vocabulary Activities, p. 501 		 Adding Decimals to Hundredths, pp. 191-192
 Topic 4, Language of Math, p. 76l 		 Subtracting Decimals to Hundredths, pp. 193-194
		 More Estimation of Decimal Sums and
		Differences, pp. 195-196
		 Multiplying with Decimals and Whole Numbers, pp. 199-200
		 Multiplying Decimals by 10, 100, or 1,000, pp. 201- 102
		 Estimating the Product of a Whole Number and a Decimal pp. 203-204
		Multiplying Decimals Using Grids pp. 205-206
		Multiplying Decimals by Decimals, pp. 200-200
		Dividing Decimals and Whole Numbers on 209-
		210
		 Dividing Decimals by 10, 100, or 1,000, pp. 211-
		212
		• Dividing a Decimal by a Whole Number, pp. 213-
		214
		 Estimating the Quotient of a Decimal and a
		Whole Number, pp. 215-216
		• Dividing a Decimals by a Decimal, pp. 217-218
		Scientific Notation, pp. 219-220

DOMAIN: Number and Operations - Fractions

CLUSTER: Use equivalent fractions as a strategy to add and subtract fractions. **A**

Big Idea: There is more than one algorithm for each of the operations with rational numbers. Some strategies for basic facts and most algorithms for operations with rational numbers, both mental math and paper and pencil, use equivalence to transform calculations into simpler ones. **Enduring Understandings:** Fractions with unlike denominators can be added or subtracted by replacing fractions with equivalent fractions with like denominators. The product of the denominators of two fractions is a common denominator of both.

Big Idea: The set of real numbers is infinite and ordered. Whole numbers, fractions, and mixed numbers are real numbers. Each real number can be associated with a unique point on the number line.

Enduring Understandings: One way to add and subtract mixed numbers is to utilize a number line to model and find common denominators. Sometimes whole numbers or fractions need to be renamed. A number line can be used to determine the nearest half or whole a fraction is closest to.

Big Idea: There are multiple interpretations of addition, subtraction, multiplication, and division of rational numbers, and each operation is related to other operations. **Enduring Understandings:** There is more than one way to add or subtract mixed numbers. Models cans be used to show different ways of adding and subtracting mixed numbers.

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.NF.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (in general, $a/b + c/d = (ad + bc)/bd$.)	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	enVisionMATH CA 10-3 Mixed Numbers and Improper Fractions 10-4 Equivalent Fractions 10-6 Fractions in Simplest Form 11-1 Add and Subtract Fractions with Like Denominators 11-2 Common Multiples and LCM 11-3 Adding Fractions with Unlike Denominators 11-4 Subtracting Fractions with Unlike Denominators 11-5 Adding Mixed Numbers 11-6 Subtracting Mixed Numbers with Unlike Denominators enVisionMATH Common Core Standards Practice Workbooks pp. CC 23-24 Illustrative Mathematics Measuring Cups http://www.illustrativemathematics.org/illustrations/1518 Jag-A-Thon http://www.illustrativemathematics.org/illustrations/855 Making S'Mores http://www.illustrativemathematics.org/illustrations/861 LAUSD Concept Lesson Grade 5: Fruit Bar Fun http://www.illustrativemathematics.org/illustrations/861 KC Department of Public Instruction 5.NF.1 Task 1.doc, Is Tim Incorrect? 5.NF.1 Task 2.doc, Show 2 Ways 5.NF.1 Task 3.doc, What Makes 1/5? http://3-5cctask.ncdpi.wikispaces.net/5.NF.1-5.NF.2	 enVisionMATH CA Quick Checks 11-1, 11-3, 11-4, 11-5, 11-6, Performance Assessment, Topic 11, p. 265B NC Department of Public Instruction 5.NF.1 Task 4.doc, Find the Common Denominator http://3- 5cctask.ncdpi.wiki spaces.net/5.NF.1 -5.NF.2 About Teaching Mathematics, 2nd Ed. (Burns, 2000) Assessing Understanding of Fractions, pp. 236- 237

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STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.NF.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the seasonableness of answers. For example, recognize an incorrect result $2/5 + \frac{1}{2} = 3/7$, by observing that $3/7 < \frac{1}{2}$.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP3 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 10-3 Mixed Numbers and Improper Fractions 10-6 Fractions in Simplest Form 10-10 Problem Solving: Write to Explain 11-1 Add and Subtract Fractions with Like Denominators 11-2 Common Multiples and LCM 11-3 Adding Fractions with Unlike Denominators 11-4 Subtracting Fractions with Unlike Denominators 11-5 Adding Mixed Numbers with Unlike Denominators 11-6 Subtracting Mixed Numbers of Fractions (use transition student edition pp. 10-11) enVisionMATH Transitioning to California's Common Core State Standards – Teacher Edition = 11-1A Estimating Sums and Differences of Fractions (use transition student edition, pp. 10-11) enVisionMATH Common Core Standards Practice Workbooks pp. CC25-26 Illustrative Mathematics Grade 5: Fruit Bar Fun http://www.illustrativemathematics.org/illustrations/481 LAUSD Concept Lesson Grade 5: Fruit Bar Fun http://tinyurl.com/GrSFruitBarFun NC Department of Public Instruction S.NF.2 Task 1.doc, Baking Cookies S.NF.2 Task 2.doc, To Add or Not To Add? http://3-Sectask.ncdpi.wikispaces.net/5.NF.1-5.NF.2 	enVisionMATH CA • Quick Checks 11-1, 11-2, 11-3, 11-4, 11-5, 11-6 • Performance Assessment, Topic 11, p. 265B Transitioning to California's Common Core State Standards⊒ – Teacher Resource Masters • Topic 11 Test Master

CLUSTER: Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

Big Idea: Any number, measure, numerical expression, algebraic expression, or equation can be represented in an infinite number of ways that have the same value.

Enduring Understanding: A fraction describes the division of a whole into equal parts, and it can be interpreted in more than one way depending on the whole to be divided.

Big Idea: There are multiple interpretations of addition, subtraction, multiplication, and division of rational numbers, and each operation is related to other operations. **Enduring Understanding:** The product of a whole number and a fraction can be interpreted in different ways. One interpretation is repeated addition. When you multiply two fractions that are both less than 1, the product is smaller than either fraction. The inverse relationship between multiplication and division can be used to divide with fractions.

Big Idea: There is more than one algorithm for each of the operations with rational numbers. Some strategies for basic facts and most algorithms for operations with rational numbers, both mental math and paper and pencil, use equivalence to transform calculations into simpler ones.

Enduring Understanding: One way to find the product of mixed numbers is to change the calculation to an equivalent one involving improper fractions. One way to find the quotient of a whole number divided by a fraction is to multiply the whole number by the reciprocal of the fraction.

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STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.NF.3 Interpret a fraction as division of the numerator by the denominator $(a/b = a \div b)$. Solve word problems involving division of whole numbers leading to answers in the form of fractions, mixed numbers, e.g., by using visual fraction models or equations to represent the problem. For example, interpret ³ / ₄ as the result of dividing 3 by 4, noting that ³ / ₄ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size ³ / ₄ . If 9 people what to share a 50-pound sack of rice equally by weight, how many pounds of frice should each person get?	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 10-2 Fractions and Division enVisionMATH Transitioning to California's Common Core State Standards – Teacher Edition ■ 10-4A Fractions, Mixed Numbers, and Decimals as Quotients (use transition student edition, pp. 8-9) enVisionMATH Common Core Standards Practice Workbooks pp. CC27-28 Illustrative Mathematics How Much Pie? http://www.illustrativemathematics.org/illustrations/858 What is 23 divided by 5? http://www.illustrativemathematics.org/illustrations/292 NC Department of Public Instruction S.NF.3 Task 1.doc, Knot Tying Project S.NF.3 Task 3.doc, Candy Conundrum http://3-5octask.ncdpi.wikispaces.net/5.NF.3-5.NF.7 	 enVisionMATH CA Quick Checks 10-2 Transitioning to California's Common Core State Standards

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STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. 5.NF.4a Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. For example, use a visual fraction model to show(2/3) $\times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd.$)	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP6 Attend to precision. MP8 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 12-1 Multiplying Fractions with Whole Numbers 12-2 Multiplying Two Fractions 12-5 Problem Solving: Missing or Extra Information 12-6 Multiplying Mixed Numbers enVisionMATH Common Core Standards Practice Workbooks pp. CC29-30 About Teaching Mathematics, 2nd Ed. (Burns, 2000) Strategies for Operations, p. 242 NC Department of Public Instruction 5.NF.4 Task 1.doc, Basketball or Football? 5.NF.4 Task 2.doc, Folded Paper Lengths http://3-5cctask.ncdpi.wikispaces.net/5.NF.3-5.NF.7 	 enVisionMATH CA Quick Checks 12-1, 12-2, 12-5, 12-6 Performance Assessment, Topic 12, p. 291B

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.NF.4b Find the area of a rectangle with fractional side lengths by tiling it with unit square of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH Transitioning to California's Common Core State Standards – Teacher Edition = 12-2A Estimating Products (use transition student edition, pp. 12-13) 12-3A Area Models (use transition student edition, pp. 14-15) enVisionMATH Common Core Standards Practice Workbooks pp. CC31-32 Illustrative Mathematics Connor and Makayla Discuss Multiplication http://www.illustrativemathematics.org/illustrations/321 NC Department of Public Instruction 5.NF.4 Task 3.doc, Model that Area http://3-5cctask.ncdpi.wikispaces.net/5.NF.3-5.NF.7 	Transitioning to California's Common Core State Standards - Teacher Resource Masters • Quick Checks 12- 2A, 12-3A • Topic 12 Test Master

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STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.NF.5 Interpret multiplication as scaling (resizing), by: 5.NF.5a Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP6 Attend to precision. MP8 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH Transitioning to California's Common Core State Standards – Teacher Edition P 12-2A Estimating Products (use transition student edition, pp. 12-13) 12-3B Multiplication as Scaling (use transition student edition, pp. 16-17) enVisionMATH Common Core Standards Practice Workbooks pp. CC33-34 Illustrative Mathematics Fundraising http://www.illustrativemathematics.org/illustrations/150 NC Department of Public Instruction 5.NF.5 Task 1.doc, Comparing Times in the Mile Run 5.NF.5 Task 2.doc, Who has More Box Tops? 5.NF.5 Task 3.doc, Which Room is Larger? 5.NF.5 Task 4.doc, Birthday Cake http://3-5cctask.ncdpi.wikispaces.net/5.NF.3-5.NF.7 	Transitioning to California's Common Core State Standards - Teacher Resource Masters • Quick Checks 12- 2A, 12-3B • Topic 12 Test Master

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STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.NF.5b Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP6 Attend to precision. MP7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH Transitioning to California's Common Core State Standards – Teacher Edition ■ 12-2A Estimating Products (use transition student edition, pp. 12-13) 12-3B Multiplication as Scaling (use transition student edition, pp. 16-17) enVisionMATH Common Core Standards Practice Workbooks pp. CC35-36 Illustrative Mathematics Comparing a Number and a Product http://www.illustrativemathematics.org/illustrations/164 Reasoning About Multiplication http://www.illustrativemathematics.org/illustrations/164 S.NF.5 Task 1.doc, Comparing Times in the Mile Run 5.NF.5 Task 2.doc, Who Has More Box Tops? 5.NF.5 Task 4.doc, Birthday Cake http://3-5cctask.ncdpi.wikispaces.net/5.NF.3-5.NF.7 	Transitioning to California's Common Core State Standards = – Teacher Resource Masters • Quick Checks 12- 2A, 12-3B • Topic 12 Test Master

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.NF.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 12-6 Multiplying Mixed Numbers enVisionMATH Common Core Standards Practice Workbooks pp. CC37-38 Illustrative Mathematics To Multiply or not to Multiply? http://www.illustrativemathematics.org/illustrations/609 Half of a Recipe http://www.illustrativemathematics.org/illustrations/296 Making Cookies http://www.illustrativemathematics.org/illustrations/297 NC Department of Public Instruction 5.NF.6 Task 1.doc, Multiplying Fractions with Color Tiles 5.NF.6 Task 2.doc, Bird Feeder Fractions http://3-5cctask.ncdpi.wikispaces.net/5.NF.3-5.NF.7 	 enVisionMATH CA Quick Check 12-6 Performance Assessment, Topic 12, p. 291B Transitioning to California's Common Core State Standards

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STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.NF.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. (Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division. But division of a fraction by a fraction is not a requirement at this grade.) 5.NF.7a Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for (1/3) \div 4 = 1/12 because (1/12) x 4 = 1/3.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP3 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH Transitioning to California's Common Core State Standards – Teacher Edition ■ 12-4A Divide Unit Fractions by Non-Zero Whole Numbers (use transition student edition, pp. 18-19) enVisionMATH Common Core Standards Practice Workbooks pp. CC39-40 Illustrative Mathematics Dividing by One Half http://www.illustrativemathematics.org/illustrations/12 How Many Servings of Oatmeal? http://www.illustrativemathematics.org/illustrations/829 Banana Pudding http://www.illustrativemathematics.org/illustrations/1196 NC Department of Public Instruction 5.NF.7 Task 1.doc, Sloan's Coins 5.NF.7 Task 2.doc, Sullivan's Bakery 5.NF.7 Task 4.doc, Writing a Division Story 5.NF.7 Task 5.doc, Creating Stories 5.NF.7 Task 5.doc, What is Being Modeled? 5.NF.7 Task 7.doc, What is Being Modeled II? http://3-5cctask.ncdpi.wikispaces.net/5.NF.3-5.NF.7 	Transitioning to California's Common Core State Standards - Teacher Resource Masters • Quick Check 12- 4A • Topic 12 Test Master

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STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.NF.7b Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	enVisionMATH CA • 12-3 Divide a Whole Number by a Fraction enVisionMATH Common Core Standards Practice Workbooks • pp. CC41-42 Illustrative Mathematics • How Many Marbles? http://www.illustrativemathematics.org/illustrations/1120 • Orgami Stars http://www.illustrativemathematics.org/illustrations/958	 enVisionMATH CA Quick Check 12-3 Performance Assessment, Topic 12, p. 291B

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STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.NF.7c Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share ½ lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP3 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 12-3 Divide a Whole Number by a Fraction enVisionMATH Transitioning to California's Common Core State Standards – Teacher Edition = 12-4A Divide Unit Fractions by Non-Zero Whole Numbers (use transition student edition, pp. 18-19) 12-9A Problem Solving: Draw a Picture and Write an Equation (use transition student edition, pp. 20-21) enVisionMATH Common Core Standards Practice Workbooks pp. CC43-44 Illustrative Mathematics Salad Dressing http://www.illustrativemathematics.org/illustrations/1172 NC Department of Public Instruction S.NF.7 Task 8.doc, How Many Cookies? S.NF.7 Task 9.doc, How Many Clear Beads? http://3-Scctask.ncdpi.wikispaces.net/5.NF.3-5.NF.7 	 enVisionMATH CA Quick Check 12-3 Performance Assessment, Topic 12, p. 291B Transitioning to California's Common Core State Standards - Teacher Resource Masters Quick Check 12-4A Topic 12 Test Master

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Domain Legend

- **Major Cluster:** Areas of intensive focus, where students need fluent understanding and application of the core concepts (approximately 70%)
- s Supporting Cluster: Rethinking & linking; some material is being covered, but in a way that applies core understandings (approximately 20%)
- a Additional Cluster: Expose students to other subjects, may not connect explicitly to the major work of the grade (approximately 10%)
- Online resource located at PearsonSuccessNet.com, click Other Resources

ADDITIONAL SUPPORT

	ESSENTIAL QUESTIONS	LANGUAGE OBJECTIVES AND SUPPORTS	KEY VOCABULARY
1.	What does it mean to add and subtract fractions, and mixed numbers with unlike denominators?	 Students will describe what it means to add and subtract fractions and fractions with mixed numbers with unlike denominators utilizing past- tense citation verbs: determined, concluded. (Teacher provides manipulatives, circulates the classroom, recasting the student output.) 	Benchmark fraction Common denominator Composite number Denominator Equivalent fractions
2.	What is a standard procedure for adding and subtracting fraction with unlike denominators?	2. Students will sequentially explain the standard procedure for adding and subtracting fractions, and fraction with mixed numbers, with unlike denominators using targeted mathematical language and complex sentences. (Teacher may refer students to math word wall for support.)	Factor tree Least common denominator Mixed number Numerator Prime number Prime factorization
3.	What are standard procedures for estimating and finding products and quotients of fractions and mixed numbers?	3. Students will ask clarifying questions of their peers as to how they used standard procedure for estimating and finding quotients involving fractions and mixed numbers using present and past tense verbs. (Teachers may provide a variety of grouping structures to allow for various opportunities for language use.)	Reciprocal Resizing Scaling Whole

DAILY ROUTINES			
 Look for articles in the newspaper or online in which fractions are used. Choose a variety to present to the class. Discuss and explain the meaning of the fractions. About Teaching Mathematics, 2nd Ed. (Burns, 2000), p. 242 	Head Problems		
LITERATURE	CONNECTIONS		
 Cruising the Caribbean by WorldScapes Readers Cracking the Code by WorldScapes Readers 	 The Mighty Mekong by WorldScapes Readers 		

DIFFERENTIATION

FRONT LOADING	ENRICHMENT	INTERVENTION
enVisionMATH CA • Universal Access – Topic 11, EL, At-Risk, pp. 246G-H	enVisionMATH CA • Universal Access – Topic 10, Advanced, p. 212H	 enVisionMATH CA Math Diagnosis and Intervention System: Booklet H, Grades 4-6 Adding Fractions with Unlike Denominators, pp. 163-164 Subtracting Fractions with Unlike Denominators, pp. 165-166 Adding Mixed Numbers, pp. 169-170 Subtracting Mixed Numbers, pp. 171-172 Multiplying Two Fractions, pp. 175-176 Understanding Division with Fractions, pp. 177-178 Dividing Fractions, pp. 179-180

DOMAIN: Measurement and Data

CLUSTER: Convert like measurement units within a given measurement system. s/a

Big Idea: Some attributes of objects are measurable and can be quantified using unit amounts.

Enduring Understandings: Relationships between measurement units of the same length/capacity/mass can be expressed as an equation (e.g. 1 ft = 12 in.), or as a ratio (e.g. 1 qt to 2 pt). Relationships exist that enable you to convert between units of measurement by multiplying or dividing.

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.MD.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP6 Attend to precision. MP7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA Topic 13 Universal Access, EL, pp. 294G enVisionMATH Transitioning to California's Common Core State Standards – Teacher Edition ■ 13-2A Converting Customary Units of Length (use transition student edition, pp. 22-23) 13-3A Converting Metric Units of Length (use transition student edition, pp. 24-25) enVisionMATH Common Core Standards Practice Workbooks pp. CC45-46 Math Matters, (Chapin and Johnson, 2000) Exploring Centimeters, Meters and Kilometers, pp. 183 – 184 English Measurement System, pp. 188-189 NC Department of Public Instruction 5.MD.1 Task 1.doc, Who Ran Farther? 5.MD.1 Task 2.doc, Long Jumper http://3-5cctask.ncdpi.wikispaces.net/5.MD.1 	Transitioning to California's Common Core State Standards - Teacher Resource Masters • Quick Checks 13- 2A, 13-3A • Transition Topic 13 Test Master (select questions)

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CLUSTER: Represent and interpret data. ^{s/a}

Big Idea: 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. Data can be represented visually using tables, charts and graphs. The type of data determines the best choice of visual representation. **Enduring Understandings:** Each type of graph is most appropriate for certain kinds of data. A line plot organizes data on a number line and is useful for showing visually how a set of data is distributed. Some questions can be answered using a survey. An appropriately selected sample can be used to make predictions about a population.

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.MD.2 Make a line plot to display a data set of measurements in fractions of a unit (1/2, ¹ /4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH Transitioning to California's Common Core State Standards – Teacher Edition ■ 19-1A Line Plots (use transition student edition, pp. 30-31) 19-1B Data from Survey (use transition student edition, pp. 32-33) 19-1C Making Line Plots (use transition student edition, pp., 34-35) 19-1D Measurement Data (use transition student edition, pp. 36-37) enVisionMATH Common Core Standards Practice Workbooks pp. CC47-48 NC Department of Public Instruction 5.MD.2 Task 1.doc, How High Did It Bounce? 5.MD.2 Task 2.doc, Punch at a Party 5.MD.2 Task 3.doc, Strips of Bubble Gum http://3-5cctask.ncdpi.wikispaces.net/5.MD.2 	Transitioning to California's Common Core State Standards

CLUSTER: Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

Big Idea: Geometric figures have attributes that can be classified and described.

Enduring Understandings: Volume is a measure of the amount of space inside a solid figure. Volume can be measured by counting the number of cubic units needed to fill a three-dimensional object. The volume of some objects can be found by breaking apart the object into other objects for which the volume of each can be found.

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
 5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement. 5.MD.3a A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. 	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 14-1 Solids 14-5 Models and Volume enVisionMATH Common Core Standards Practice Workbooks pp. CC49-50 Math Matters, (Chapin and Johnson, 2000) Measuring Volume and Capacity, pp. 186-187 NC Department of Public Instruction 5.MD.3 Task 1,doc, Carter's Candy Company http://3-5cctask.ncdpi.wikispaces.net/5.MD.3-5.MD.5 	enVisionMATH CA • Quick Checks 14- 1, 14-5 Transitioning to California's Common Core State Standards = - Teacher Resource Masters • Transition Topic 14 Test Master

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
A solid figure which can be packed without gaps or overlaps unit cubes is said to have a volume of <i>n</i> cubic units.	ke sense of problems and persevere in solving them. ason abstractly and quantitatively. Instruct viable arguments and critique the reasoning of others. del with mathematics. appropriate tools strategically. end to precision. Ok for and make use of structure. Ok for and express regularity in repeated reasoning.	 enVisionMATH CA 14-5 Models and Volume 14-6 Volume enVisionMATH Common Core Standards Practice Workbooks pp. CC49-50 NC Department of Public Instruction 5.MD.3 Task 2.doc, Jeremy's Wall http://3-5cctask.ncdpi.wikispaces.net/5.MD.3-5.MD.5 	enVisionMATH CA • Quick Checks 14- 5, 14-6 Transitioning to California's Common Core State Standards⊒ – Teacher Resource Masters • Transition Topic 14 Test Master
5.MD.3 Using <i>n</i>	MP1 MC MP2 Re MP3 CC MP3 CC MP4 MC MP4 MC MP7 Loi MP8 Loi		

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.MD.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 14-5 Models and Volume Universal Access, Topic 14, pp. 316G – 316H enVisionMATH Common Core Standards Practice Workbooks pp. CC51-52 NC Department of Public Instruction 5.MD.4 Task 1.doc, Measure a Box http://3-5cctask.ncdpi.wikispaces.net/5.MD.3-5.MD.5 	enVisionMATH CA • Quick Check 14-5 Transitioning to California's Common Core State Standards - Teacher Resource Masters • Transition Topic 14 Test Master

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
 5.MD.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volumes. 5.MD.5a Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication. 	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP6 Attend to precision. MP7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 14-5 Models and Volume 14-6 Volume 14-7 Problem Solving: Use Objects and Solve a Simpler Problem enVisionMATH Common Core Standards Practice Workbooks pp. CC53-54 Illustrative Mathematics Using Volume to Understand the Associative Property of Multiplication http://www.illustrativemathematics.org/illustrations/1655 NC Department of Public Instruction S.MD.5 Task 1.doc, Partner Prisms S.MD.5 Task 3.doc, Transferring Teachers http://3-5cctask.ncdpi.wikispaces.net/5.MD.3-5.MD.5 	enVisionMATH CA • Quick Checks 14- 5, 14-6, 14-7 Transitioning to California's Common Core State Standards = – Teacher Resource Masters • Transition Topic 14 Test Master

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.MD.5b Apply the formulas V = 1 × w × h and V = b × h for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP6 Attend to precision. MP7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 14-6 Volume enVisionMATH Common Core Standards Practice Workbooks pp. CC55-56 Illustrative Mathematics Cari's Aquarium http://www.illustrativemathematics.org/illustrations/1308 Box of Clay http://www.illustrativemathematics.org/illustrations/1031 NC Department of Public Instruction 5.MD.5 Task 6.doc, Sears Tower http://3-5cctask.ncdpi.wikispaces.net/5.MD.3-5.MD.5 	enVisionMATH CA • Quick Checks 14- 6 Transitioning to California's Common Core State Standards = - Teacher Resource Masters • Transition Topic 14 Test Master

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.MD.5c Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP6 Attend to precision. MP7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH Transitioning to California's Common Core State Standards - Teacher Edition ■ 14-7A Combining Volumes (use transition student edition, pp. 26-27) enVisionMATH Common Core Standards Practice Workbooks pp. CC57-58 NC Department of Public Instruction 5.MD.5 Task 6.doc, Sears Tower http://3-5cctask.ncdpi.wikispaces.net/5.MD.3-5.MD.5 	Transitioning to California's Common Core State Standards = - Teacher Resource Masters • Quick Check 14- 7A • Transition Topic 14 Test Master

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Domain Legend

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- a Additional Cluster: Expose students to other subjects, may not connect explicitly to the major work of the grade (approximately 10%)
- □ Online resource located at **PearsonSuccessNet.com**, click **Other Resources**

ADDITIONAL SUPPORT

ESSENTIAL QUESTIONS	LANGUAGE OBJECTIVES AND SUPPORTS	KEY VOCABULARY
 How can you find the volume of a rectangular prism? 	 Students will orally explain using transitional phrases and domain specific vocabulary the steps in finding the volume of a rectangular prism. (Teacher may provide sentence stems to support explanation.) 	Centimeters (cm) Converts Cube
2. How can you use volume formulas to solve problems?	 Students will orally and in written form express how volume formulas can help solve word problems by using pronouns (we, you, I) and prepositional phrases (by, to) in complex sentences. (Teacher may provide opportunities for pair-share and reporting what the partner just said.) 	Customary unit of length Data Edge Faces Frequency table
3. How can you use smaller units to find a more accurate measure?	3. Students will orally support their knowledge and opinions on measurement by using modal verbs (can, could, may, might). (Teachers may construct open- ended questions that promote critical thinking and classroom discourse.)	Gallon Gap Height Kilometer (km)
4. How can you change from one customary unit of length to another?	 Students will explain the patterns in converting from one customary unit of length to another by using subordinate conjunctions (when you change, whenever). (Teacher provides manipulatives and tools to support the exploration.) 	Line plot Liquid volume Meter (m) Milliliter (mL)
5. What are customary measurement units, and how are they related?	5. Students will define customary units of measure by using complex sentences, comparatives, and superlatives. (Teacher provides manipulatives and time for exploration.)	Millimeter (mm) Ounce Outlier Over-lap
6. How can you organize data on a line plot?	6. Students will orally justify their data representation and compare it to other data representations by using conjunctions (because) and auxiliary verbs (may, might, should, could, would). (Teacher encourages)	Pint Pound Quart Range

ESSENTIAL QUESTIONS	LANGUAGE OBJECTIVES AND SUPPORTS	KEY VOCABULARY
7. How can you display the data collected in a survey?	 multiple representations.) Students will restate a partner's response to how they chose to display data in a survey by using paraphrasing expressions. (Teachers may employ the talk moves during student discussions, allowing for wait time, restating, and recasting.) 	Sample Unit(s) Vertex Vertices Volume Width
8. How can we organize and represent measurement data?	 Students will ask clarifying questions of their peers as to how they organized and represented measurement data using present and past tense verbs. (Teachers may provide a variety of grouping structures to allow for various opportunities for language use.) 	
9. How can we solve problems using measurement data?	 Students will report a group consensus as to how to solve problems using measurement data utilizing past- tense citation verbs: determined, concluded. (Teacher circulates the classroom, recasting the student output.) 	
10. How can we find the volume of objects made of two or more rectangular prisms?	10. Students will sequentially explain how to find the volume of objects made of two or more rectangular prisms using targeted mathematical language and complex sentences. (Teacher may refer students to math word wall for support.)	
 9. How can we solve problems using measurement data? 10. How can we find the volume of objects made of two or more rectangular prisms? 	 9. Students will report a group consensus as to how to solve problems using measurement data utilizing pasttense citation verbs: determined, concluded. (Teacher circulates the classroom, recasting the student output.) 10. Students will sequentially explain how to find the volume of objects made of two or more rectangular prisms using targeted mathematical language and complex sentences. (Teacher may refer students to math word wall for support.) 	

DAILY ROUTINES				
Head Problems	 Daily Oral Language with C 	CGI Problems		
Number Talks				
	LITERATURE CONNECTIONS			
 Cruising the Caribbean, WorldScapes Readers Destination Hawaii, WorldScapes Readers 	 Cracking the Code, WorldS 	capes Readers		
FRONT LOADING	ENRICHMENT	INTERVENTION		
 enVisionMATH CA Universal Access Topic 13, EL, p. 294G Topic 14, EL, Special Education, p. 316G-H The Language of Math Topic 14, p. 316I-J Illustrative Mathematics Using Volume to Understand the Associative Property of Multiplication http://www.illustrativemathematics.org/illustrations/1655 You Can Multiply Three Numbers in Any Order http://www.illustrativemathematics.org/illustrations/1631 	 enVisionMATH CA Universal Access Topic 14, Advanced, p. 351C NC Department of Public Instruction 5.MD.5 Task 4.doc 5.MD.5 Task 5.doc http://3-5cctask.ncdpi.wikispaces.net/5.MD.3-5.MD.5 	 enVisionMATH CA Math Diagnosis and Intervention System: Booklet I, Grades 4-6 Converting Customary Units of Length, pp. 155-156 Converting Customary Units of Capacity, pp. 157-158 Converting Customary Units of Weight, pp. 159-160 Converting Metric Units, pp. 161-162 Converting Between Measurement Systems, pp. 163-164 Making Line Plots, pp. 213-214 Counting Cubes to Find Volume, pp. 199-200 Measuring Volume, pp. 201-202 		

DOMAIN: Geometry

CLUSTER: Graph points on the coordinate plane to solve real-world and mathematical problems. s/a

Big Idea: Two-dimensional objects can be described, classified, and analyzed by their attributes. **Enduring Understandings:** The coordinate system is a scheme that uses two perpendicular lines intersecting at 0 to name the location of points in the plane.

Big Idea: Relationships between two variables that are represented in an equation can also be shown on a graph on a coordinate plane. **Enduring Understandings:** Ordered pairs can be used to graph data.

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.G.1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second anit, with the convention that the names of the two axes and the second axis, with the convention that the names of the two axes and the coordinates. Coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP6 Attend to precision. MP7 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 18-1 Ordered Pairs, focus only on Quadrant I questions 18-2 Line Graphs 18-4 Problem Solving: Work Backward enVisionMATH Common Core Standards Practice Workbooks pg. CC59–62 Illustrative Mathematics Battle Ship Using Grid Paper http://www.illustrativemathematics.org/illustrations/489 Lessons for Algebraic Thinking, Grades 3-5 (Wickett, Kharas & Burns, 2002) Introduction to Coordinate Graphing, pp. 43-54 Tic-Tac-Toe, pp. 55-70 	enVisionMATH CA • Quick Checks 18- 2

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STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.G.2 Represent real world and mathematical problems by graphing point in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP5 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 18-1 Ordered Pairs, focus only on Quadrant I questions 18-2 Line Graphs 18-4 Problem Solving: Work Backward Illustrative Mathematics Battle Ship Using Grid Paper http://www.illustrativemathematics.org/illustrations/489 	enVisionMATH CA • Quick Checks 18- 1, 18-2, 18-4

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CLUSTER: Classify two-dimensional figures into categories based on their properties. ^{s/a}

Big Idea: Two-dimensional objects can be described, classified, and analyzed by their attributes. An object's location in space can be described quantitatively. **Enduring Understandings:** Plane shapes have many properties that make them different from one another. Polygons can be described and classified by their sides and angles. Two-dimensional shapes can be classified into categories based on their properties.

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.G.3 Understand that attributes belonging to a category of two- dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP5 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 8-3 Polygons 8-4 Triangles 8-5 Quadrilaterals 8-6 Problem Solving: Make and Test Generalizations enVisionMATH Common Core Standards Practice Workbooks pp. CC63-64 About Teaching Mathematics, 2nd Ed. (Burns, 2000) Explorations Using the Geoboard, p. 95 Common Core Georgia Performance Standards Fifth Grade, Unit 6 – 2D Figures http://preview.tinyurl.com/GAgrade5unit6 Math Matters K-6: Understanding the Math You Teach (Chapin & Johnson, 2000) Points of Intersection, p.149 Properties of Quadrilaterals, p. 156 	enVisionMATH CA • Quick Checks 8-3, 8-4, 8-5, 8-6

STANDARDS FOR MATHEMATICAL CONTENT	STANDARDS FOR MATHEMATICAL PRACTICE	RESOURCES	FORMATIVE ASSESSMENT
5.G.4 Classify two-dimensional figures in a hierarchy based on properties.	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP3 Construct viable arguments and critique the reasoning of others. MP4 Model with mathematics. MP5 Use appropriate tools strategically. MP5 Look for and make use of structure. MP8 Look for and express regularity in repeated reasoning.	 enVisionMATH CA 8-3 Polygons 8-4 Triangles 8-5 Quadrilaterals 8-6 Problem Solving: Make and Test Generalizations enVisionMATH Common Core Standards Practice Workbooks pp. CC65-66 About Teaching Mathematics, 2nd Ed. (Burns, 2000) Explorations Using the Geoboard, p. 95 (#8-12) Common Core Georgia Performance Standards Fifth Grade, Unit 6 – 2D Figures http://preview.tinyurl.com/GAgrade5unit6 Math Matters K-6: Understanding the Math You Teach (Chapin & Johnson, 2000) Points of Intersection, p. 149 Properties of Quadrilaterals, p. 156 	 enVisionMATH CA Quick Checks 8-3, 8-4, 8-5, 8-6 Transitioning to California's Common Core State Standards - Teacher Resource Masters Topic 8 Test Master (skip #2, #8, and #9)

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- a Additional Cluster: Expose students to other subjects, may not connect explicitly to the major work of the grade (approximately 10%)
- Online resource located at PearsonSuccessNet.com, click Other Resources

ADDITIONAL SUPPORT

ESSENTIAL QUESTIONS	LANGUAGE OBJECTIVES AND SUPPORTS	KEY VOCABULARY
 How do I name and graph points on a coordinate grid? 	 Students will orally explain using transitional phrases and domain specific vocabulary the steps in graphing a point in the coordinate plane. (Teacher may provide sentence stems to support explanation.) 	Acute angle Angle Coordinate grid Coordinate plane
2. How can we describe the relationship between two points on a graph?	 Students will orally and in written form express how two points are related on a graph by using pronouns (we, you, I) and prepositional phrases (by, to) in complex sentences. (Teacher may provide opportunities for pair-share and reporting what the partner just said.) 	Equilateral Hexagon Intersecting Isosceles
3. How can polygons, triangles, and quadrilaterals be described, classified, and named?	 Students will orally support their knowledge and opinions on classifying polygons by their sides and angles by using modal verbs (can, could, may, might). (Teachers may construct open-ended questions that promote critical thinking and classroom discourse.) 	Line of symmetry Obtuse angle Octagon Ordered pair Origin
4. Which shapes are special cases of another shape?	4. Students will define shapes that are special cases of another shape by using complex sentences, comparatives, and superlatives. (Teacher provides manipulatives and time for exploration.)	Parallel Parallelogram Pentagon Perpendicular Plane
		Polygon Quadrilateral Rectangle Rhombus Right angle Scalene Side Square

ESSENTIAL QUESTIONS	LANGUAGE OBJECTIVES AND SUPPORTS	KEY VOCABULARY
		Symmetric
		Trapezoid
		Triangle
		Vertex
		X-axis
		X-coordinate
		Y-axis
		Y-coordinate

DAILY ROUTINES		
 Provide multiple opportunities to read and say vocabulary in the Geometry domain, for example, "I have, Who has?" Geometry Card Activity <u>http://ftp.aea1.k12.ia.us/math/DiscourseMathClass.pdf</u> 	 "Simon Says" activities with geometry vocabulary terms "Reach Your Kinesthetic Learners While Teaching Geometry" <u>http://teacherblogspot.com/?p=254</u> 	
LITERATURE CONNECTIONS		
Grandfather Tang's Story by Ann Tompert	 The Greedy Triangle by Marilyn Burns Go Fly a Kite! WorldScapes Readers 	

DIFFERENTIATION

FRONT LOADING	ENRICHMENT	INTERVENTION
 enVisionMATH CA Universal Access Topic 8, EL, At-Risk, pp. 172G-H Topic 14, EL, At-Risk, pp. 316G-H Topic 18, EL, Special Education, p. 400F The Language of Math Topic 14, Vocabulary Activities, p. 316I-J 	enVisionMATH CA • Universal Access – Topic 8, Advanced, p. 172H – Topic 18 Advanced, p. 400F	 enVisionMATH CA Math Diagnosis and Intervention System: Booklet D, Grades 3-5 Graphing Ordered Pairs, pp. 251-252 Polygons, pp. 215-216 Classifying Triangles Using Sides and Angles, pp. 217-218 Quadrilaterals, pp. 219-220