

Northpoint Horizons

CAVS (Content Academic Vocabulary System) Math 3-5 Correlated to the California State Mathematic Content Standards

Grade 3

This document provides a correlation to the math directives offered throughout the *CAVS Math* program that meet the California Mathematics Content Standards. The n/a signifies the standards that are not directly met for this grade level.

Math Content Standard	CAVS Math Grades 3-5 Teacher's Guide Lessons
Number Sense	
1.0 Students understand the place value of whole numbers:	
1.1 Count, read, and write whole numbers to 10,000.	Students have opportunities to read and write whole numbers in <i>CAVS</i> lessons. They study place value to hundred thousands in: Lesson 1 – TG p. 1 <i>How can you put numbers in order?</i>
1.2 Compare and order whole numbers to 10,000.	Lesson 1 – TG p. 1 <i>How can you put numbers in order?</i>
1.3 Identify the place value for each digit in numbers to 10,000.	Lesson 1 – TG p. 1 <i>How can you put numbers in order?</i>
1.4 Round off numbers to 10,000 to the nearest ten, hundred, and thousand.	Students round whole numbers to nearest thousand and ten thousand: Lesson 1 – TG p. 1 <i>How can you put numbers in order?</i>
1.5 Use expanded notation to represent numbers (e.g., $3,206 = 3,000 + 200 + 6$).	n/a
2.0 Students calculate and solve problems involving addition, subtraction, multiplication, and division:	
2.1 Find the sum or difference of two whole numbers between 0 and 10,000.	Students use the math content vocabulary: <i>addends</i> , <i>sum</i> , <i>number sentence</i> , and <i>equation</i> to calculate the sum of two whole numbers: Lesson 2 – TG p.7 <i>How do numbers tell a story?</i>

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2.2 Memorize to automaticity the multiplication table for numbers between 1 and 10.	n/a
2.3 Use the inverse relationship of multiplication and division to compute and check results.	n/a
2.4 Solve simple problems involving multiplication of multidigit numbers by one-digit numbers ($3,671 \times 3 = \underline{\quad}$).	Students use math content vocabulary: <i>multiplication, factor, product, array, prime number, and multiples</i> to solve simple multiplication problems: Lesson 3 – TG p.13 <i>How do we count large amounts?</i>
2.5 Solve division problems in which a multidigit number is evenly divided by a one-digit number ($135 \div 5 = \underline{\quad}$).	Students use math content vocabulary: <i>division, dividend, divisor, quotient, and remainder</i> to solve simple division problems with and without a remainder: Lesson 4 – TG p. 19 <i>How do we make equal groups?</i>
2.6 Understand the special properties of 0 and 1 in multiplication and division.	n/a
2.7 Determine the unit cost when given the total cost and number of units.	n/a
2.8 Solve problems that require two or more of the skills mentioned above.	n/a
3.0 Students understand the relationship between whole numbers, simple fractions, and decimals:	
3.1 Compare fractions represented by drawings or concrete materials to show equivalency and to add and subtract simple fractions in context (e.g., $1/2$ of a pizza is the same amount as $2/4$ of another pizza that is the same size; show that $3/8$ is larger than $1/4$).	Lesson 5 – TG p. 25 <i>How do you show that a number is not a whole?</i>
3.2 Add and subtract simple fractions (e.g., determine that $1/8 + 3/8$ is the same as $1/2$).	Lesson 5 – TG p. 25 <i>How do you show that a number is not a whole?</i>
3.3 Solve problems involving addition, subtraction, multiplication, and division of money amounts in decimal notation and multiply and divide money amounts in decimal notation by using whole-number multipliers and divisors.	n/a
3.4 Know and understand that fractions and decimals are two different representations of the same concept (e.g.,	Lesson 5 – TG p. 25 <i>How do you show that a number is not a whole?</i>

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50 cents is $\frac{1}{2}$ of a dollar, 75 cents is $\frac{3}{4}$ of a dollar).	Lesson 6 – TG p. 31 <i>How else can you show less than one whole?</i>
Algebra and Functions	
1.0 Students select appropriate symbols, operations, and properties to represent, describe, simplify, and solve simple number relationships:	
1.1 Represent relationships of quantities in the form of mathematical expressions, equations, or inequalities.	Students have opportunities to represent relationships of quantities in the form of mathematical expressions and equations: Lesson 2 – TG p.7 <i>How do numbers tell a story?</i> Lesson 3 – TG p. 13 <i>How do we count large amounts?</i> Lesson 4 – TG p. 19 <i>How do we make equal groups?</i> Lesson 9 – TG p. 49 <i>How can math rules help you solve equations?</i>
1.2 Solve problems involving numeric equations or inequalities.	Lesson 9 – TG p. 49 <i>How can math rules help you solve equations?</i>
1.3 Select appropriate operational and relational symbols to make an expression true (e.g., if $4 _ 3 = 12$, what operational symbol goes in the blank?).	n/a
1.4 Express simple unit conversions in symbolic form (e.g., $_ \text{ inches} = _ \text{ feet} \times 12$).	n/a
1.5 Recognize and use the commutative and associative properties of multiplication (e.g., if $5 \times 7 = 35$, then what is 7×5 ? and if $5 \times 7 \times 3 = 105$, then what is $7 \times 3 \times 5$?).	Lesson 9 – TG p. 49 <i>How can math rules help you solve equations?</i>
2.0 Students represent simple functional relationships:	
2.1 Solve simple problems involving a functional relationship between two quantities (e.g., find the total cost of multiple items given the cost per unit).	n/a
2.2 Extend and recognize a linear pattern by its rules (e.g., the number of legs on a given number of horses may be calculated by counting by 4s or by multiplying the number of horses by 4).	Lesson 9 – TG p. 49 <i>How can math rules help you solve equations?</i>

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Measurement and Geometry	
1.0 Students choose and use appropriate units and measurement tools to quantify the properties of objects:	
1.1 Choose the appropriate tools and units (metric and U.S.) and estimate and measure the length, liquid volume, and weight/mass of given objects.	Lesson 10 - TG p. 55 <i>What do you use to measure things?</i> Lesson 11 - TG p. 61 <i>How do you measure?</i> Lesson 12 - TG p. 67 <i>How do you measure flat shapes?</i> Lesson 13 - TG p. 73 <i>How do you measure solid shapes?</i> Lesson 14 - TG p. 79 <i>What are units of measurement?</i>
1.2 Estimate or determine the area and volume of solid figures by covering them with squares or by counting the number of cubes that would fill them.	Lesson 12 - TG p. 67 <i>How do you measure flat shapes?</i> Lesson 13 - TG p. 73 <i>How do you measure solid shapes?</i>
1.3 Find the perimeter of a polygon with integer sides.	Lesson 12 - TG p. 67 <i>How do you measure flat shapes?</i>
1.4 Carry out simple unit conversions within a system of measurement (e.g., centimeters and meters, hours and minutes).	Lesson 11 - TG p. 61 <i>How do you measure?</i> Lesson 14 - TG p. 79 <i>What are units of measurement?</i> Lesson 15 - TG p. 85 <i>How long does it take?</i>
2.0 Students describe and compare the attributes of plane and solid geometric figures and use their understanding to show relationships and solve problems:	
2.1 Identify, describe, and classify polygons (including pentagons, hexagons, and octagons).	Lesson 16 - TG p. 91 <i>How do we describe shapes with straight sides?</i>
2.2 Identify attributes of triangles (e.g., two equal sides for the isosceles triangle, three equal sides for the equilateral triangle, right angle for the right triangle).	Lesson 17 - TG p. 97 <i>How do we describe shapes with three sides?</i>
2.3 Identify attributes of quadrilaterals (e.g., parallel sides for the parallelogram, right angles for the rectangle, equal sides and right angles for the square).	Lesson 16 - TG p. 91 <i>How do we describe shapes with straight sides?</i>

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2.4 Identify right angles in geometric figures or in appropriate objects and determine whether other angles are greater or less than a right angle.	Lesson 17 – TG p. 97 <i>How do we describe shapes with three sides?</i>
2.5 Identify, describe, and classify common three-dimensional geometric objects (e.g., cube, rectangular solid, sphere, prism, pyramid, cone, cylinder).	Lesson 19 - TG p. 109 <i>What attributes do solid shapes share?</i>
2.6 Identify common solid objects that are the components needed to make a more complex solid object.	Lesson 19 - TG p. 109 <i>What attributes do solid shapes share?</i>
Statistics, Data Analysis, and Probability	
1.0 Students conduct simple probability experiments by determining the number of possible outcomes and make simple predictions:	
1.1 Identify whether common events are certain, likely, unlikely, or improbable.	Lesson 23 – TG p. 133 <i>Do you think it will happen?</i>
1.2 Record the possible outcomes for a simple event (e.g., tossing a coin) and systematically keep track of the outcomes when the event is repeated many times.	Lesson 23 – TG p. 133 <i>Do you think it will happen?</i>
1.3 Summarize and display the results of probability experiments in a clear and organized way (e.g., use a bar graph or a line plot).	Lesson 21 – TG p. 121 <i>Why do you need information?</i>
1.4 Use the results of probability experiments to predict future events (e.g., use a line plot to predict the temperature forecast for the next day).	The line graph and bar graph are discussed in this lesson: Lesson 21 – TG p. 121 <i>Why do you need information?</i> Lesson 23 – TG p. 133 <i>Do you think it will happen?</i>
Mathematical Reasoning	
1.0 Students make decisions about how to approach problems:	
1.1 Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns.	Students use vocabulary words: <i>relevant information</i> and <i>irrelevant information</i> to apply and adapt a variety of appropriate strategies to solve problems and reflect on the process of problem solving:
1.2 Determine when and how to break a problem into simpler parts.	Lesson 24 – TG p. 139 <i>How can you solve problems?</i> During each CAVS Math Lesson, the teacher helps students

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	<p>determine the approach, materials, and strategies to be used to solve problems using the <i>5-E</i> Instructional Approach while highlighting math content academic vocabulary. The <i>5-E</i> Approach:</p> <p><i>Engage:</i> Concept Posters and Math Vocabulary Cards are used to introduce the math concept and vocabulary as a whole group activity.</p> <p><i>Explore</i> and Learn: Students use hands-on Activity Placemats with manipulatives as a small group inquiry activity. Students complete the Record Sheet and then discuss the activity and compare observations with classmates.</p> <p><i>Explain</i> Concepts and Vocabulary: Teacher and students and/or student pairs read and discuss the academic vocabulary words in context on the Reader Cards. Reader Card A is targeted to the reading levels of Beginning/Emerging English language learners. Reader Card B is targeted to the reading levels of the Intermediate/Expanding English language learners and native English speakers.</p> <p><i>Elaborate:</i> Students apply newly learned concepts when working with a partner to complete the Concept Webs. As a small group or paired activity, students practice listening to, reading, writing, and speaking each academic vocabulary word with the Radius Audio System™.</p> <p><i>Evaluate:</i> Teachers review the lesson's academic vocabulary words through Interactive Transparencies (whole group activity) and assess each lesson through the Lesson Review sheets (individual activity).</p>
2.0 Students use strategies, skills, and concepts in finding solutions:	
2.1 Use estimation to verify the reasonableness of calculated results.	Lesson 24 – TG p. 139 <i>How do you solve problems?</i>
2.2 Apply strategies and results from simpler problems to more complex problems.	Students have opportunities to apply lesson concepts, strategies, and results in the Now Try This activity at the end of the Activity Placemats in each CAVS lesson.
2.3 Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.	Lesson 21 – TG p. 121 <i>Why do you need information?</i>

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2.4 Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.	Students learn to use appropriate mathematical terms in the <i>CAVS</i> Math program. The program is designed to help elementary students master content academic vocabulary that they will encounter in their textbooks and on their standardized state tests. Each <i>CAVS</i> lesson has a Record Sheet and Concept Web for students to complete by drawing pictures and/or completing charts/graphic organizers.
2.5 Indicate the relative advantages of exact and approximate solutions to problems and give answers to a specified degree of accuracy.	Lesson 23 – TG p. 133 <i>Do you think it will happen?</i> Lesson 24 – TG p. 139 <i>How do you solve problems?</i>
2.6 Make precise calculations and check the validity of the results from the context of the problem.	Lesson 23 – TG p. 133 <i>Do you think it will happen?</i> Lesson 24 – TG p. 139 <i>How do you solve problems?</i>
3.0 Students move beyond a particular problem by generalizing to other situations:	
3.1 Evaluate the reasonableness of the solution in the context of the original situation.	n/a
3.2 Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.	n/a
3.3 Develop generalizations of the results obtained and apply them in other circumstances.	n/a