

Optimum Resource Inc.'s MiddleWare Software

California Standards - Fifth Grade Mathematics	Math Word Problems
<b>NUMBER SENSE</b>	
<b>1.0 Students compute with very large &amp; very small positive integers, decimals, &amp; fractions &amp; understand the relationship between decimals, fractions, &amp; percents. They understand the relative magnitude of numbers</b>	✓
Estimate, round, & manipulate very large & very small numbers	✓
Interpret percents as a part of a hundred; find decimal & percent equivalents for common fractions & explain why they represent the same value; compute a given percent of a whole number	
Understand & compute positive integer powers of nonnegative integers; compute examples as repeated multiplication	✓
Determine the prime factors of all numbers through 50 & write the numbers as the product of their prime factors by using exponents to show multiples of a factor	
Identify & represent on a number line decimals, fractions, mixed numbers & positive and negative integers	
<b>2.0 Students perform calculations &amp; solve problems involving addition, subtraction, &amp; simple multiplication &amp; division of fractions &amp; decimals</b>	✓
Add, subtract, multiply, & divide with decimals; add with negative integers; subtract positive integers from negative integers; & verify the reasonableness of results	✓
Demonstrate proficiency with division, including division with positive decimals & long division with multidigit divisors	✓
Solve simple problems, including ones arising in concrete situations, involving the addition & subtraction of fractions & mixed numbers, & express answers in the simplest form	✓
Understand the concept of multiplication & division of fractions	
Understand the special properties of 0 & 1 in multiplication & division	✓
Compute & perform simple multiplication & division of fractions & apply these procedures to solving problems	
<b>Algebra and Functions</b>	
<b>1.0 Students use variables in simple expressions, compute the value of the expression for specific values of the variable, &amp; plot &amp; interpret the results</b>	✓

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Use information taken from a graph or equation to answer questions about a problem situation	
Use a letter to represent an unknown number; write & evaluate simple algebraic expressions in one variable by substitution	
Know & use the distributive property in equations & expressions with variables	
Identify & graph ordered pairs in the four quadrants of the coordinate plane	
Solve problems involving linear functions with integer values; write the equation; & graph the resulting ordered pairs of integers on a grid	✓
<b>MEASUREMENT AND GEOMETRY</b>	
<b>1.0 Students understand &amp; compute the volumes &amp; areas of simple objects</b>	
Derive & use the formula for the area of a triangle & of a parallelogram by comparing it with the formula for the area of a rectangle	
Construct a cube & rectangular box from two-dimensional patterns & use these patterns to compute the surface area for these objects	
Understand the concept of volume & use the appropriate units in common measuring systems, cubic meter, cubic inch, cubic yard to compute the volume of rectangular solids	
Differentiate between, & use appropriate units of measures for, two- & three-dimensional objects	
<b>2.0 Students identify, describe, &amp; classify the properties of, &amp; the relationships between, plane &amp; solid geometric figures</b>	
Measure, identify, & draw angles, perpendicular & parallel lines, rectangles, & triangles by using appropriate tools	
Know that the sum of the angles of any triangle is 180 and the sum of the angles of any quadrilateral is 360 & use this information to solve problems	
Visualize & draw two-dimensional views of three-dimensional objects made from rectangular solids	
<b>STATISTICS, DATA ANALYSIS, &amp; PROBABILITY</b>	
<b>1.0 Students display, analyze, compare, &amp; interpret different data sets, including data sets of different sizes:</b>	
Know the concepts of mean, median, & mode; compute and compare simple examples to show that they may differ	
Organize and display single-variable data in appropriate graphs & representations & explain which types of graphs are appropriate for various data sets	
Use fractions & percentages to compare data sets of different sizes	
Identify ordered pairs of data from a graph & interpret the meaning of the data in terms of the situation depicted by the graph	
Know how to write ordered pairs correctly, example, (x, y)	
<b>MATHEMATICAL REASONING</b>	

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<b>1.0 Students make decisions about how to approach problems</b>	✓
Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing & prioritizing information, & observing patterns	
Determine when and how to break a problem into simpler parts	✓
<b>2.0 Students use strategies, skills, &amp; concepts in finding solutions</b>	✓
Use estimation to verify the reasonableness of calculated results	
Apply strategies & results from simpler problems to more complex problems	
Use a variety of methods, such as words, numbers, symbols, charts, graphs tables, diagrams & models, to explain mathematical reasoning	✓
Estimate unknown quantities graphically & solve for them by using logical reasoning & arithmetic & algebraic techniques	✓
Express the solution clearly & logically by using the appropriate mathematical notation & terms & clear language, support solutions with evidence in both verbal symbolic work	✓
Indicate the relative advantages of exact & approximate solutions to problems & give answers to a specified degree of accuracy	
Make precise calculations & check the validity of the results from the context of the problem	✓
<b>3.0 Students move beyond a particular problem by generalizing to other situations</b>	✓
Evaluate the reasonableness of the solution in the context of the original situation	✓
Note the method of deriving the solution & demonstrate a conceptual understanding of the derivation by solving similar problems	✓
Develop generalizations of the results obtained & apply them in other circumstances	