Pearson

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Colorado Mathematics Academic Standards, Grade 6 Alignments to SuccessMaker

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Colorado Mathematics Standards Code	Colorado Mathematics Academic Standards, Grade 6	SuccessMaker Item Description	Item ID
1	Number and Quantity		
6.RP.A	Ratios & Proportional Relationships: Understand ratio concepts and use ratio reasoning to solve problems.		
6.RP.A.3	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.	Given a rate and a model, find a distance.	SMMA_LO_01575
6.RP.A.3.b	Solve unit rate problems including those involving unit pricing and constant speed.	Find the number of hours worked given the hourly rate and total earned.	SMMA_LO_01625
	For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?		
6.RP.A.3.c	Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.	Determine the percent (100 total items).	SMMA_LO_01713
6.NS.A	The Number System: Apply and extend previous understandings of multiplication and division to divide fractions by fractions.		
6.NS.A.1	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.	Divide a fraction by a fraction; simplify if necessary.	SMMA_LO_01788
		Divide a mixed number by a fraction; simplify if necessary.	SMMA_LO_01789
	For example, create a story context for 2/3 ÷ 3/4 and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that 2/3 ÷ 3/4 = 8/9 because 3/4 of 8/9 is 2/3. (In general, $a/b \div c/d = ad/bc$.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?		
	Academic Context and Connections		
	Entrepreneurial Skills: Critical Thinking/Problem Solving		
1	Create and solve word problems using division of fractions, understanding the relationship of the arithmetic to the problem being solved.	Divide a fraction by a fraction; simplify if necessary.	SMMA_LO_01788
		Divide a mixed number by a fraction; simplify if necessary.	SMMA_LO_01789
MP2	Reason abstractly and quantitatively.		
2	Reason about the contextualized meaning of numbers in word problems involving division of fractions, and decontextualize those numbers to perform efficient calculations.	Divide a fraction by a fraction; simplify if necessary.	SMMA_LO_01788
		Divide a mixed number by a fraction; simplify if necessary.	SMMA_LO_01789
6.NS.B	The Number System: Compute fluently with multi-digit numbers and		

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	find common factors and multiples.		
6.NS.B.2	Fluently divide multi-digit numbers using the standard algorithm.	Divide using the long division algorithm (three-digit number, two-digit divisor, remainder).	SMMA_LO_00304
6.NS.B.3	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.	Move the decimal point in the divisor and dividend in a long division problem; then find the quotient.	SMMA_LO_00249
		Subtract decimals with regrouping (to ten-thousandths).	SMMA_LO_00243
		Align the decimal numbers for a vertical subtraction problem; then solve (to thousandths).	SMMA_LO_00228
		Align the decimal numbers in a vertical subtraction problem; then solve (decimals to thousandths).	SMMA_LO_00233
		Align the decimal numbers for a vertical addition problem; then solve (to thousandths).	SMMA_LO_00226
		Move the decimal point in the divisor and dividend in a long division problem.	SMMA_LO_00247
		Subtract the decimal numbers provided on a data table.	SMMA_LO_01786
6.NS.C	The Number System: Apply and extend previous understandings of numbers to the system of rational numbers.		
6.NS.C.5	Explain why positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.	Use positive and negative numbers together to represent quantities having opposite directions or values.	SMMA_LO_02066
6.NS.C.6	Describe a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.		
6.NS.C.6.b	Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; explain that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.	Given two points, describe how the points are related: reflected across the x-axis, reflected across the y-axis, or reflected across both axes.	SMMA_LO_02108
6.NS.C.6.c	Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.	Locate the missing integer on a number line (-3 to -12).	SMMA_LO_00101
6.NS.C.7	Order and find absolute value of rational numbers.		
6.NS.C.7.b	Write, interpret, and explain statements of order for rational numbers in real-world contexts.	Complete statements of order for rational numbers in real-world contexts.	SMMA_LO_02110
	For example, write -3°C > –7°C to express the fact that 3°C is warmer than –7°C.		

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6.NS.C.8	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	Graph points on a coordinate plane based on a real-world context.	SMMA_LO_02112
2	Algebra and Functions		
6.EE.A	Expressions & Equations: Apply and extend previous understandings of arithmetic to algebraic expressions.		
6.EE.A.1	Write and evaluate numerical expressions involving whole-number exponents.	Give the value of a number (1 to 10) raised to a power (1 to 5).	SMMA_LO_01098
6.EE.A.2	Write, read, and evaluate expressions in which letters stand for numbers.	Given the value for the variable, evaluate an addition expression (sums 4 to 12).	SMMA_LO_01683
		Evaluate an expression within a context (multiplication).	SMMA_LO_01740
		Evaluate the expression mx + c or mx - c.	SMMA_LO_01739
		Evaluate an expression with variables using substitution and a value chart (addition, sums to 18).	SMMA_LO_01685
6.EE.A.2.b	Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity.	Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient).	SMMA_LO_02057
	For example, describe the expression 2(8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms.		
6.EE.A.2.c	Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).	Given the value for the variable, evaluate an addition expression (sums 4 to 12).	SMMA_LO_01683
		Evaluate an expression within a context (multiplication).	SMMA_LO_01740
		Evaluate the expression mx + c or mx - c.	SMMA_LO_01739
		Evaluate an expression with variables using substitution and a value chart (addition, sums to 18).	SMMA_LO_01685
	For example, use the formulas $V = s^3$ and $A = 6s^2$ to find the volume and surface area of a cube with sides of length $s = 1/2$.		
6.EE.A.3	Apply the properties of operations to generate equivalent expressions.	Apply the properties of operations to generate equivalent expressions.	SMMA_LO_02059
	For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6(4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y.		
6.EE.A.4	Identify when two expressions are	Choose all expressions that are	SMMA_LO_02060

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	equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).	equivalent to a given expression.	
	For example, the expressions $y + y + y$ and $3y$ are equivalent because they name the same number regardless of which number y stands for.		
6.EE.B	Expressions & Equations: Reason about and solve one-variable equations and inequalities.		
6.EE.B.7	Solve real-world and mathematical problems by writing and solving equations of the form $x \pm p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers.	Solve for a in a + b = c or a - b = c in steps (whole number sums and differences 2 to 20).	SMMA_LO_00379
		Solve a one-step equation in context (division, two-digit whole numbers).	SMMA_LO_01745
		Solve a one-step equation (subtraction).	SMMA_LO_01688
		Solve for x in ax = c in steps (products 4 x 4 to 9 x 10).	SMMA_LO_00380
		Complete the steps to solve for a in a ÷ b = c (combinations 4 x 4 to 9 x 10).	SMMA_LO_00381
		Solve for a or b in a ÷ b = c (combinations 6 ÷ 20 to 9 ÷ 90, multiples of 10).	SMMA_LO_00365
		Solve for a or b in a x b = x (products 2 x 20 to 12 x 90, multiples of 10).	SMMA_LO_00366
		Solve for a or b in a ÷ b = c (combinations 2 ÷ 10 to 5 ÷ 12).	SMMA_LO_00359
		Solve a one-step equation in context (addition, two-digit whole numbers).	SMMA_LO_01743
		Solve for a or b in a x b = x (products 2 x 10 to 12 x 12).	SMMA_LO_00363
		Solve a one-step equation (division).	SMMA_LO_01692
		Solve a one-step equation in context (division, two-digit whole numbers).	SMMA_LO_01747
		Solve for a or b in a ÷ b = c (combinations 6 ÷ 10 to 9 ÷ 12).	SMMA_LO_00361
		Solve for a or b in a x b = c (products from 0.2 x 0.6 to 0.9 x 0.9).	SMMA_LO_00369
		Solve for a or b in a + b = c (decimals to tenths, no regrouping).	SMMA_LO_00367
		Solve for a or b in a - b = c (decimals to tenths, regrouping).	SMMA_LO_00368
		Solve a one-step equation in context (subtraction, two-digit whole numbers).	SMMA_LO_01744
		Solve a one-step equation (multiplication).	SMMA_LO_01690
		Solve for a or b in a x b = c (products 6 x 2 to 9 x 12).	SMMA_LO_00357
		Solve one-step equations (addition and subtraction, fractions).	SMMA_LO_01796
		Solve for a or b in a x b = c (products from 0.02 x 0.13 to 0.09 x 0.19).	SMMA_LO_00376
		Solve for a or b in a ÷ b = c (combinations 0.6 ÷ 0.6 to 0.9 ÷ 0.9).	SMMA_LO_00370
		Solve for a in a/b = c.	SMMA_LO_01798
6.EE.C	Expressions & Equations: Represent and analyze quantitative relationships between dependent and independent variables.		
	Academic Context and Connections		

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MP4	Model with mathematics.		
3	Model with mathematics by describing real-world situations with equations and inequalities.	Identify the one-step equation that is a translation of the written phrase within a context.	SMMA_LO_01813
4	Geometry		
6.G.A	Geometry: Solve real-world and mathematical problems involving area, surface area, and volume.		
6.G.A.2	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = lwh$ and $V = bh$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.	Find the volume of a rectangular solid by counting cubes.	SMMA_LO_00829
		Find the volume of a rectangular solid by counting cubes.	SMMA_LO_00833
	Academic Context and Connections		
	Entrepreneurial Skills: Critical Thinking/Problem Solving		
MP5	Use appropriate tools strategically.		
4	Strategically use coordinate planes, nets of three-dimensional figures, and area and volume formulas as tools to solve real-world problems.	Identify the net that forms a three-dimensional solid.	SMMA_LO_01772