GRADE 5

Domain	Code	Standard Description	Essential Vocabulary
Options and Algebraic Thinking	5.OA.2	Write simple expressions that record calculations with numbers. Interpret numerical expressions without evaluating them.	expression, evaluate
Options and Algebraic Thinking	5.OA.4	Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.	factor, prime, composite, multiple
Number and Operations in Base Ten	5.NBT.2	Explain patterns in the number of zeros of the product when multiplying a number by powers of 10. 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.	exponents, powers of 10
Number and Operations in Base Ten	5.NBT.3	Read, write, and compare decimals to thousandths. 　a) Read and write decimals to thousandths using base-ten numerals, word form, and expanded form. 　b) Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	word/expanded/standard form
Number and Operations in Base Ten	5.NBT.5	Fluently multiply multi-digit whole numbers using strategies flexibly, including the standard algorithm.	
Number and Operations in Base Ten	5.NBT.6	Using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division, find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	dividend, divisor, quotient
Number and Operations in Base Ten	5.NBT.7	Using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction, add, subtract, multiply, and divide decimals to hundredths. Relate the strategy to a written method and explain the reasoning used.	written method

Number and Operations - Fractions	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	unlike denominator, mixed number, equivalent fractions
	5.NF.2	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, by using visual fraction models and equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.	unlike denominator, benchmark fractions
	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 or mixed numbers by using visual fraction models and equations to represent the problem	numerator, denominator, mixed number
	5.NF.4	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. a) 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 $a \times q \div b$. b) Find the area of a rectangle with fractional side lengths by tiling it with unit squares 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. Represent fraction products as rectangular areas.	product
	5.NF.7	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. a) Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. b) Interpret division of a whole number by a unit fraction, and compute such quotients. c) Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions using visual fraction models and equations to represent the problem.	

	5.MD.5	Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.	volume, unit cube, additive, V=LxWxH
Measurement and Data		a)　Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes. 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. b)　Represent threefold whole-number products as volumes to represent the associative property of multiplication. c)　Apply the formulas $V = l \times w \times h$ and $V = b \times h$ 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. d)　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 problem	