- *indicates standard for instruction each quarter*

	Q1	Q2	Q3	Q4
Operations and Algebraic Thinking				
5.OA.A Write and interpret numerical expressions				
5.OA.A.1 Use *grouping symbols* including parentheses, brackets, or braces in numerical *expressions*, and evaluate *expressions* with these symbols.	•	•	•	•
Note: 5.OA.A.1 Expressions should not contain nested grouping symbols such as [4+2(10+3)] and they should be no more complex than the expressions one finds in an application of the associative or distributive property (e.g., (8+7) x2 or {6 X 30} + {6 X 7}).				
5.OA.A.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 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated *sum* or *product.*	•	•	•	•
5.OA.B Analyze patterns and relationships				
5.OA.B.3 • Generate two numerical patterns, each using a given rule. • Identify apparent relationships between corresponding terms by completing a function table or input/output table. • Using the terms created, form and graph ordered pairs in the first quadrant of the *coordinate plane.*				•
Note: 5.OA.B.3 Terms of the numerical patterns will be limited to whole number coordinates.				

• *indicates standard for instruction each quarter*	Q1	Q2	Q3	Q4
Number and Operations in Base Ten				
5.NBT.A Understand the place value system				
5.NBT.A.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 it represents in the place to its left.	•	•		
★ **5.NBT.A.2** Understand why multiplying or dividing by a power of 10 shifts the *value* of the digits of a whole number or decimal: • Explain patterns in the number of zeros of the *product* when multiplying a whole 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	•	•	•	•
5.NBT.A.3 Read, write, and compare decimals to thousandths: • Read and write decimals to thousandths using base-ten numerals, number names, and *expanded form*(s) *Examples could include:* • Base-ten numerals "standard form" (347.392) • Number name form (three-hundred forty seven and three hundred ninety-two thousandths) • *Expanded form*(s): 300 + 40 + 7 + .3 + .09 +.002 = 300 +40 +7 +3/10 + 9/100 + 2/100 = 3 x 100 + 4 x 10 + 7 x 1 + 3 x (1/10) + 9 x (1/100) +2 x (1/1000) = 3 x 10^2 + 4 x 10^1 x 7 x 10^0 + 3x ($1/10^1$) + 9x ($1/10^2$) +2 x ($1/10^3$) • Compare two decimals to thousandths based on the *value* of the digits in each place, using >, =, and < symbols to record the results of comparisons		•		
5.NBT.A.4 Apply *place value* understanding to round decimals to any place.		•		
5.NBT.B Perform operations with multi-digit whole numbers and with decimals to hundredths				
5.NBT.B.5 Fluently (efficiently, accurately and with some degree of flexibility) multiply multi-digit *whole numbers* using a standard *algorithm*	•	•	•	•
Notes 5.NBT.B.5: A standard algorithm can be viewed as, but should not be limited to, the traditional recording system. A standard algorithm denotes any valid base-ten strategy.				
★ **5.NBT.B.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 ○ Divisibility rules; and ○ The relationship between multiplication and division • Illustrate and explain calculations by using *equations*, *rectangular arrays*, and area models	•	•	•	•
★ **5.NBT.B.7** Perform basic operations on decimals to the hundredths place: • Add and subtract decimals to hundredths using concrete models or drawings and strategies based on *place value*, properties of operations, and the relationship between addition and subtraction • Multiply and divide decimals to hundredths using concrete models or drawings and strategies based on *place value*, properties of operations, and the relationship between multiplication and division			•	•

★ Big Idea/Concept Standard

• *indicates standard for instruction each quarter*	Q1	Q2	Q3	Q4
Number and Operations in Fractions				
5.NF.A Use equivalent fractions as a strategy to add and subtract fractions				
5.NF.A.1 Efficiently, accurately, and with some degree of flexibility, add and subtract *fractions* with unlike *denominators* (including mixed numbers) using equivalent *fractions* and common *denominators* *For example:* Understand that 2/3 + 5/4 = 8/12 + 15/12 = 23/12 (In general, a/b + c/d = (ad + bc)/bd)			•	•
Note: 5.NF.A.1 The focus of this standard is applying equivalent fractions, not necessarily finding least common denominators or putting results in simplest form.				
★ **5.NF.A.2** • Solve word problems involving addition and subtraction of *fractions* referring to the same whole, including cases of unlike *denominators*. *For example:* Use *visual fraction models* or *equations* to represent the problem. • Use benchmark *fractions* and number sense of *fractions* to estimate mentally and assess the reasonableness of answers. *For example:* Recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2.			•	•
5.NF.B Apply and extend previous understandings of multiplication and division				
★ **5.NF.B.3** • Interpret a *fraction* as division of the *numerator* by the *denominator* ($a/b = a \div b$), where *a* and *b* are natural numbers *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. • Solve word problems involving division of natural numbers leading to answers in the form of *fractions* or mixed numbers. *For example:* Use *visual fraction models* or *equations* to represent the problem. If 9 people want to share a 50- pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two *whole numbers* does your answer lie?	•	•		
★ **5.NF.B.4** Apply and extend previous understandings of multiplication to multiply a *fraction* or whole number by a *fraction*: • 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) × 12 means to take 12 and divide it into thirds (1/3 of 12 is 4) and take two of the parts (2 X 4 is 8), so (2/3) X 12 = 8, and create a story context for this equation. Do the same with (2/3) × (4/5) = 8/15. (In general, (a/b) × (c/d) = ac/bd.). • Find the area of a rectangle with fractional (less than and/or greater than 1) side lengths, by tiling it with unit squares of the appropriate *unit fraction* side lengths, by multiplying the fractional side lengths, and then show that both procedures yield the same area	•	•	•	

★ Big Idea/Concept Standard

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• *indicates standard for instruction each quarter*	Q1	Q2	Q3	Q4
Number and Operations in Fractions, continued				
5.NF.B Apply and extend previous understandings of multiplication and division *(continued)*				
5.NF.B.5 Interpret multiplication as scaling (resizing), by: • 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 *For example:* Understand that 2/3 is twice as large as 1/3. • Explaining why multiplying a given number by a *fraction* greater than 1 results in a *product* greater than the given number • Explain why multiplying a given number by a *fraction* less than 1 results in a *product* smaller than the given number • Relate the principle of *fraction* equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1		•	•	
5.NF.B.6 Solve real world problems involving multiplication of *fractions* and mixed numbers. *For example:* Use *visual fraction models* or *equations* to represent the problem.	•	•	•	
★ **5.NF.B.7** Apply and extend previous understandings of division to divide *unit fractions* by *whole numbers* and *whole numbers* by *unit fractions*: • Interpret division of a *unit fraction* by a natural number, and compute such *quotients* *For example:* Create a story context for (1/3) ÷ 4, and use a *visual fraction model* to show the *quotient*. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) × 4 = 1/3). • Interpret division of a whole number by a *unit fraction*, and compute such *quotients* *For example:* Create a story context for 4 ÷ (1/5), and use a *visual fraction model* to show the *quotient*. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4). • Solve real world problems involving division of *unit fractions* by natural numbers and division of *whole numbers* by *unit fractions* *For example:* Use *visual fraction models* and *equations* to represent the problem. How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?		•	•	
Note 5.NF.B.7: Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division. Division of a fraction by a fraction is not a requirement at this grade.				

★ Big Idea/Concept Standard

• *indicates standard for instruction each quarter*	Q1	Q2	Q3	Q4
Measurement and Data				
5.MD.A Convert like measurement units within a given measurement system				
5.MD.A.1 • Convert among different-sized standard measurement units within the metric system. *For example:* Convert 5 cm to 0.05 m. • Convert among different-sized standard measurement units within the customary system. *For example:* Convert 1½ ft to 18 in. • Use these conversions in solving multi-step, real world problems		•	•	
5.MD.B Represent and Interpret Data				
5.MD.B.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. Given different measurements of length between the longest and shortest pieces of rope in a collection, find the length each piece of rope would measure if each rope's length were redistributed equally or other examples that demonstrate measures of center (*mean*, *median*, *mode*).			•	•

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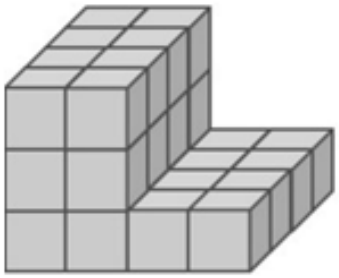
• *indicates standard for instruction each quarter*	Q1	Q2	Q3	Q4
Measurement and Data, continued				
5.MD.C Geometric Measurement: understand concepts of volume				
5.MD.C.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement: • A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume • A solid figure, which can be packed without gaps or overlaps using *n* unit cubes, is said to have a volume of *n* cubic units	•			
5.MD.C.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.	•			
★ **5.MD.C.5** Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume: • 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 (**B**) • Represent threefold whole-number *products* as volumes (e.g., to represent the associative property of multiplication) • Apply the formulas V = l × 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 • 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 *For Example:*  John was finding the volume of this figure. He decided to break it apart into two separate rectangular prisms. John found the volume of the solid by using this expression: (4 x 4 x 1) + (2 x 4 x 2). Decompose the figure into two rectangular prisms and shade them in different colors to show how John might have thought about it. Phillis also broke this solid into two rectangular prisms, but she did it differently than John. She found the volume of the solid below using this expression: (2 x 4 x 3) + (2 x 4 x 1). Decompose the figure into two rectangular prisms and shade them in different colors to show how Phillis might have thought about it.	•	•		

★ Big Idea/Concept Standard

• *indicates standard for instruction each quarter*

	Q1	Q2	Q3	Q4
Geometry				
5.G.A Graph points on the coordinate plane to solve real-world and mathematical problems				
5.G.A.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 number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the *coordinates* correspond (e.g., *x*-axis and *x*- coordinate, *y*-axis and *y*-coordinate).			•	•
Note 5.G.A.1: Graphing will be limited to the first quadrant and the non-negative x- and y-axes only.				
5.G.A.2 • Represent real world and mathematical problems by graphing points in the first quadrant and on the nonnegative *x*- and *y*-axes of the *coordinate plane.* • Interpret coordinate values of points in the context of the situation.			•	•
5.G.B Classify two-dimensional figures into categories based on their properties				
★ **5.G.B.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. All isosceles triangles have at least two sides *congruent* and equilateral triangles are isosceles. Therefore, equilateral triangles have at least two *congruent* sides.		•	•	
5.G.B.4 Classify two-dimensional figures in a hierarchy based on properties.			•	
Note 5.G.B.4: Trapezoids will be defined as a quadrilateral with at least one pair of opposite sides parallel, therefore all parallelograms are trapezoids.				

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