ARLINGTON COMMUNITY SCHOOLS
Empowered and Inspired Today… Leading Our Community Tomorrow

5th Grade Math Pacing Guide 2018 - 2019

Q1: Ready Mathematics Unit 1, Lessons 1-9: Number and Operations in Base Ten

Q2: Ready Mathematics Unit 2, Lessons 10-18: Number and Operations – Fractions

Q3: Ready Mathematics Units 3-4, Lessons 19-28: Operations and Algebraic Thinking; Measurement and Data; begin Geometry

Q4: Ready Mathematics Unit 5, Lessons 29-31: Geometry; Review; preview 6th grade standards

5th grade fluency expectation: Fluently multiply multi-digit whole numbers (up to 3-digit by 4-digit factors) using appropriate strategies and algorithms.

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Literacy Skills for Mathematical Proficiency

1. Use multiple reading strategies.
2. Understand and use correct mathematical vocabulary.
3. Discuss and articulate mathematical ideas.
4. Write mathematical arguments.

	1st Quarter	Instructional Days	TN Standards	Vocabulary	Ready Math	Additional Resources
	Week 1: August 7 - 11	5	**5.NBT.B.5**: Fluently multiply multi-digit whole numbers (up to 3-digit by 4-digit factors) using appropriate strategies and algorithms. (See Table 3 - Properties of Operations)	distributive property, factor, product, partial products	Lesson 5: Multiply Whole Numbers	Study Island: 3e. Multiply Whole Numbers TN Performance Coach Lesson 9 NC Tasks Khan Academy Illustrative Mathematics Engage NY Learnzillion Learning Farm

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	Week 2: August 14 - 18	5	**5.NBT.B.6**: Find whole-number quotients and remainders of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. (See Table 3 - Properties of Operations) .	division, divisor, dividend, quotient, partial quotient	Lesson 6: Divide Whole Numbers	Study Island: 3f. Division of Whole Numbers TN Performance Coach Lesson 10 NC Tasks Khan Academy Illustrative Mathematics EngageNY Learnzillion Learning Farm
	Week 3: August 21 - 25	5	**5.NBT.A.3**: Read and write decimals to thousandths using standard form, word form, and expanded form, e.g., the expanded form of 347.392 is written as 3x100+4x10+7x1+3x(1/10)+9x(1/100)+2x(1/1000).	decimal, tenth, hundredth, thousandth, expanded form	Lesson 3: Read and Write Decimals	Study Island: 3b. Representations of Decimals TN Performance Coach Lesson 6 NC Tasks Khan Academy Illustrative Mathematics EngageNY Learnzillion Learning Farm
	Week 4:Aug. 28–Sept. 1	5	**5.NBT.A.3**: Compare two decimals to thousandths based on meanings of the digits in each place, and use the symbols >, =, and < to show the relationship. **5.NBT.A.4**: Round decimals to the nearest hundredth, tenth, or whole number using understanding of place value	to estimate, compare, greater than symbol (>), less than symbol (<), place value	Lesson 4: Compare and Round Decimals	Study Island: 3c. Comparing Decimals, 3d. Rounding Decimals TN Performance Coach Lessons 7-8 NC Tasks Khan Academy Illustrative Math Engage NY Learnzillion Learning Farm- comparing Learning Farm -rounding
	Week 5: Sept. 4 - 8	4	**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.	base ten, thousandths, decimal, place value	Lesson 1: Understand Place Value	Study Island: 1a. Pretest, 3a. Powers of Ten TN Performance Coach Lesson 4 NC Task Learnzillion EngageNY Khan Academy Illustrative Mathematics Learning Farm

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	Week 6: September 11 - 15	4	**5.NBT.A.2**: Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and 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 .	e**xponent, power of ten, inverse operations, decim**al	Lesson 2: Understand Powers of Ten	Study Island: 3a. Powers of Ten TN Performance Coach Lesson 5 NC Tasks Learnzillion EngageNY Khan Academy Illustrative Mathematics Learning Farm
	Week 7: September 18 - 22	5	**5.NBT.B.7**: Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between operations; assess the reasonableness of answers using estimation strategies. (Limit division problems so that either the dividend or divisor is a whole number) (See Table 3 - Properties of Operations)	decimal, to estimate, place value, sum, difference	Lesson 7: Add and Subtract Decimals	Study Island: 3g. Add and Subtract Decimals ITN Performance Coach Lesson 11 NC Tasks Khan Academy Illustrative Mathematics EngageNY Learnzillion Learning Farm
	Week 8: Sept. 25 - 29	5	**5.NBT.B.7**: Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between operations; assess the reasonableness of answers using estimation strategies. (Limit division problems so that either the dividend or divisor is a whole number) (See Table 3 - Properties of Operations)	decimal, product, factor, place value, to estimate	Lesson 8: Multiply Decimals	Study Island: 3h. Multiply and Divide Decimals TN Performance Coach Lesson 12 NC Tasks Khan Academy Illustrative Mathematics EngageNY Learnzillion Learning Farm
	Week 9: October 2 -6	5	**5.NBT.B.7**: Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between operations; assess the reasonableness of answers using estimation strategies. (Limit division problems so that either the dividend or divisor is a whole number) (See Table 3 - Properties of Operations)	dividend, divisor, quotient, to estimate	Lesson 9: Divide Decimals (at this time, Ready includes dividing decimals by decimals)	Study Island: 3h. Multiply and Divide Decimals TN Performance Coach Lesson 13 NC Tasks Khan Academy Illustrative Mathematics EngageNY Learnzillion Learning Farm
	End of 1st Quarter		**District Quarterly CFA**			
	Fall Break October 9 - 13					
	2nd Quarter	**Instructional Days**	**TN Standards**	**Vocabulary**	**Ready Math**	**Additional Resources**
	Week 1: Oct. 16 - 20	5	**5.NF.A.1**: Add and subtract fractions with unlike denominators (including mixed numbers) by replacing	numerator, denominator,	Lesson 10: Add and Subtract	Study Island: 4a. Add and Subtract Fractions

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			given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad +bc)/bd.)* (See Table 1 - Addition and Subtraction Situations for whole number situations that can be applied to fractions)	equivalent fractions, common denominator	Fractions	TN Performance Coach Lesson 14 NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy Learning Farm
	Week 2: October 23 - 27	5	**5.NF.A.2**: Solve contextual problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators. 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.* (See Table 1 - Addition and Subtraction Situations for whole number situations that can be applied to fractions)	common denominator, equivalent fractions, benchmark fraction	Lesson 11: Add and Subtract Fractions in Word Problems	Study Island: 4b. Real World Add and Subtract Fractions TN Performance Coach Lesson 15 NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy Learning Farm
	Week 3: Oct. 30–Nov. 3	5	**5.NF.B.3**: Interpret a fraction as division of the numerator by the denominator (a/b = a ÷b). *For example, 3/4 = 3 divided by 4, so when 3 wholes are shared equally among 4 people, each person has a share of size 3/4.* Solve contextual problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers by using visual fraction models or equations to represent the problem. *For example, if 8 people want to share 49 sheets of construction paper equally, how many sheets will each person receive? Between what two whole numbers does your answer lie?* (See Table 2 - Multiplication and Division Situations for whole number situations that can be applied to fractions)	fraction, numerator, denominator, quotient	Lesson 12: Fractions as Division	Study Island: 4f. Interpreting Fractions as Division TN Performance Coach Lesson 16 Xtramath, Moby Max, iReady, One Drive Resources NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy Learning Farm
	Week 4: November 6 - 10	5	**5.NF.B.4:** Apply and extend previous understandings of multiplication to multiply a fraction by a whole number or a fraction by a fraction. **5.NF.B.4.a**: Interpret the product of *(a/b) x q* as *a* x *(q ÷ b)* (partition the quantity *q* into *b* equal parts and then multiply by *a*). Interpret the product *a/b x q* as *(a x q) ÷ b* (multiply *a* times the quantity *q* and then partition the product into *b* equal parts). *For example, use a visual fraction model or write a story context to show that 2/3 x 6 can be interpreted as 2 x (6 ÷ 3) or (2 x 6) ÷ 3. Do the*	numerator, denominator, unit fraction, product, factor	Lesson 13: Understand Products of Fractions	Study Island: 4c. Multiplication with Fractions TN Performance Coach Lesson 17 NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy Learning Farm

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			same with (2/3) x (4/5) = 8/15. (In general, (a/b) x (c/d) = ac/bd.) (See Table 2 - Multiplication and Division Situations for whole number situations that can be applied to fractions)			
	Week 5: November 13 - 17	5	**5.NF.B.4b**: 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, and represent fraction products as rectangular areas. (See Table 2 - Multiplication and Division Situations for whole number situations that can be applied to fractions)	area, product, factor, unit fraction	Lesson 14: Multiply Fractions Using an Area Model	Study Island: 4d. Area – Fractional Lengths TN Performance Coach Lesson 18 NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy Learning Farm
	Week 6: Nov. 20 - 24	2	**5.NF.B.5**: Interpret multiplication as scaling (resizing) **5.NF.B.5a**: Compare 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, know if the product will be greater than, less than, or equal to the factors.* **5.NF.B.5b**: Explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explain why multiplying a given number by a fraction less than 1 results in a product less than the given number; and relate the principle of fraction equivalence a/b = (a x n)/(b x n) to the effect of multiplying a/b by 1. (See Table 2 - Multiplication and Division Situations for whole number situations that can be applied to fractions)	scaling, product, factor	Lesson 15: Understand Multiplication as Scaling	Study Island: 4e. Multiplication with Fractions – Products and Factors TN Performance Coach Lesson 19 NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy Learning Farm
	Week 7: Nov. 27–Dec. 1	5	**5.NF.B.6**: Solve real world problems involving multiplication of fractions and mixed numbers by using visual fraction models or equations to represent the problem. (See Table 2 - Multiplication and Division Situations for whole number situations that can be applied to fractions)	product, factor, equation	Lesson 16: Multiply Fractions in Word Problems	Study Island: 4c. Multiplication with Fractions TN Performance Coach Lesson 20 NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy Learning Farm

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	Week 8: December 4 -8	5	**5.NF.B.7:** Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. **5.NF.B.7.a**: Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. *For example, use visual models and the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) x 4 = 1/3.* **5.NF.B.7b**: Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, use visual models and the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.* (See Table 2 - Multiplication and Division Situations for whole number situations that can be applied to fractions)	unit fractions	Lesson 17: Understand Division with Unit Fractions	Study Island: 4g. Division With Fractions TN Performance Coach Lesson 21 NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy Learning Farm
	Week 9: Dec. 11 - 15	5	**5.NF.B.7c**: Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, by using visual fraction models and equations to represent the problem. *For example, 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?* (See Table 2 - Multiplication and Division Situations for whole number situations that can be applied to fractions)	unit fractions	Lesson 18: Divide Unit Fractions in Word Problems	Study Island: 4g. Division With Fractions TN Performance Coach Lesson 22 NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy Learning Farm
	Week 10: Dec. 18-22	2.5				
	End of 2nd Quarter		**District Quarterly CFA**			
	End of 1st Semester					
	Winter Break December 21 – January 2					
	3rd Quarter	**Instructional Days**	**TN Standards**	**Vocabulary**	**Ready Math**	**Additional Resources**
	Week 1: January 1 - 5	2	**5.OA.A.1**: Use parentheses and/or brackets in numerical expressions, and evaluate expressions having these symbols using the conventional order (Order of Operations). **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 × (18,932 + 921) is three*	evaluate, parentheses	Lesson 19: Evaluate and Write Expressions	Study Island: 2a. Order of Operations; 2b. Numerical Expressions TN Performance Coach Lessons 1-2 NC Tasks Illustrative Mathematics EngageNY OA.A.1 EngageNY OA.A.2 Learnzillion Khan Academy

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			times as large as 18,932 + 921, without having to calculate the indicated sum or product.			Learning Farm OA.A.1 Learning Farm OA.A.2
	Week 2: January 8 - 12	5	**5.OA.B.3**: Generate two numerical patterns using two given rules. *For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences.* **5.OA.B.3.a: I**dentify relationships between corresponding terms in two numerical patterns. *For example, observe that the terms in one sequence are twice the corresponding terms in the other sequence.* **5.OA.B.3.b:** Form ordered pairs consisting of corresponding terms from two numerical patterns, and graph the ordered pairs on a coordinate plane.	corresponding terms, ordered pair	Lesson 20: Analyze Patterns and Relationships	Study Island: 2c. Number Patterns TN Performance Coach Lesson 3 NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy Learning Farm
	Week 3: January 15 - 19	4	**5.MD.A.1**: Convert customary and metric measurement units within a single system by expressing measurements of a **larger unit in terms of a smaller unit**. Use these conversions to solve multi-step real-world problems involving distances, **intervals of time**, liquid volumes, masses of objects, and **money** (including problems involving simple fractions or decimals). *For example, 3.6 liters and 4.1 liters can be combined as 7.7 liters or 7700 milliliters.*	convert, metric system, customary system	Lesson 21: Convert Measurement Units	Study Island: 5a. Units of Measure TN Performance Coach Lesson 23 NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy Learning Farm
	Week 4: January 22 - 26	5	**5.MD.A.1:** Convert customary and metric measurement units within a single system by expressing measurements of a **larger unit in terms of a smaller unit**. Use these conversions to solve multi-step real-world problems involving distances, **intervals of time**, liquid volumes, masses of objects, and **money** (including problems involving simple fractions or decimals). *For example, 3.6 liters and 4.1 liters can be combined as 7.7 liters or 7700 milliliters.*	metric system, customary system	Lesson 22: Solve Word Problems Involving Conversions	Study Island: 5a. Units of Measure TN Performance Coach Lesson 23 NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy Learning Farm
	Week 5: Jan. 29 - Feb. 2	5	**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.*	distribution, line plot, scale	Lesson 23: Make Line Plots and Interpret Data	Study Island: 5b. Representing and Interpreting Data TN Performance Coach Lesson 24 NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy

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						Learning Farm
	Week 6: February 5 - 9	5	**5.MD.C.3**: Recognize volume as an attribute of solid figures and understand concepts of volume measurement. **5.MD.C.3a**: Understand that 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. **5.MD.C.3b**: Understand that 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.	plane figure, solid figure, volume, cubic unit, rectangular prism	Lesson 24: Understand Volume	Study Island: 5c. Volume – Unit Cubes TN Performance Coach Lesson 25 NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy Learning Farm
	Week 7: February 12 - 16	4	**5.MD.C.4**: Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.	volume, cubic unit, rectangular prism	Lesson 25: Find Volume Using Unit Cubes	Study Island: 5d. Volume with Unit Cubes TN Performance Coach Lesson 26 NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy Learning Farm
	Week 8: February 19 - 23	4	**5.MD.C.5**: Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume of right rectangular prisms. **5.MD.C.5a**: 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. Represent whole-number products of three factors as volumes, (e.g., to represent the associative property of multiplication). **5.MD.C.5b**: Know and apply the formulas $V = l \times w \times h$ and $V = B \times h$ (where B represents the area of the base) 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.	area, formula, volume, cubic unit	Lesson 26: Find Volume Using Formulas	Study Island: 5d. Volume with Unit Cubes; 5e. Volume TN Performance Coach Lesson 26 NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy Learning Farm
	Week 9: Feb. 26 - March 2	5	**5.MD.C.5c**: 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.	area, square unit, volume, cubic unit	Lesson 27: Find Volume of Composite Figures	Study Island: 5f. Volume of Composite Figures TN Performance Coach Lesson 27 NC Tasks Illustrative Mathematics

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						EngageNY Learnzillion Khan Academy Learning Farm
	Week 10: March 5 -9	5	**5.G.A.1** Graph ordered pairs and label points using the first quadrant of the coordinate plane. Understand in the ordered pair that the first number indicates the horizontal distance traveled along the x-axis from the origin and the second number indicates the vertical distance traveled along the y-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).	coordinate plane, x-axis, y-axis, ordered pair, x-coordinate, y-coordinate, origin	Lesson 28: Understand the Coordinate Plane	Study Island: 6a. Coordinate System TN Performance Coach Lesson 28 NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy Learning Farm
	End of 3rd Quarter		**District Quarterly CFA**			
Spring Break March 12-16						
	4th Quarter	**Instructional Days**	**TN Standards**	**Vocabulary**	**Ready Math**	**Additional Resources**
	Week 1: March 19 - 23	5	**5.G.A.2**: Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.	coordinate plane, ordered pair, origin	Lesson 29: Graph Points in the Coordinate Plane	Study Island: 6a. Coordinate System TN Performance Coach Lesson 29 NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy Learning Farm
	Week 2: March 26 - 30	4	**5.G.B.3** Classify two-dimensional figures in a hierarchy based on properties. 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.*	hierarchy, polygon, Venn diagram	Lesson 30: Classify Two-Dimensional Figures	Study Island: 6b. 2-Dimensional Figures TN Performance Coach Lesson 30 NC Tasks Illustrative Mathematics EngageNY Learnzillion Khan Academy Learning Farm
	Week 3: April 2 - 6	5	**5.G.B.3** Classify two-dimensional figures in a hierarchy based on properties. 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.*	convex polygon, concave polygon, attribute	Lesson 31: Understand Properties of Two-Dimensional Figures	Study Island: 6b. 2-Dimensional Figures TN Performance Coach Lesson 30 NC Tasks Illustrative Mathematics EngageNY Learnzillion

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						Khan Academy Learning Farm
	Week 4: April 9 -13	5	**Revisit NBT 1-7 AND NF 1-7 STANDARDS**		Unit 1 Math in Action, p. 82-92; Unit 2 Math in Action, p. 168-178	Study Island: 7. Posttest
	Week 5: April 16 - 20	5	**Revisit OA 1-3, MD 1-6, AND G1-4 STANDARDS**		Unit 3 Math in Action, p. 200-210; Unit 4 Math in Action p. 272-282; Unit 5 Math in Action p, 314-324	Study Island: 7. Posttest
	Week 6: April 23 - 27	5	**6.NS.5**: Understand that 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.	Positive number Negative number Whole number Rational Number Opposite Number Horizontal Line Vertical Line	http://www.mathworksheetsland.com/6/	Gameaquarium.com/integers CC Task
	Week 7: April 30 – May 4	5	**6.NS.5**: Understand that 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.	Positive number Negative number Whole number Rational Number Opposite Number Horizontal Line Vertical Line	http://www.mathworksheetsland.com/6/	Gameaquarium.com/integers CC Task
	Week 8: May 7 - 11	5	**6.NS. 6** Understand 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.6a** Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., –(–3) = 3, and that 0 is its own opposite. **6.NS.6b** Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by	Absolute Value	http://www.commoncoresheets.com/SortedByGrade.php?Sorted=6ns6a http://www.commoncoresheets.com/SortedByGrade.php?Sorted=6ns6b http://www.commoncoresheet	Integer Games Illustrative Mathematics Integer Football Game

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			signs, the locations of the points are related by reflections across one or both axes. **6.NS.6c** 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.		s.com/SortedByGrade.php?Sorted=6ns6c	
	Week 10: May 21 - 25	3.5	**6.NS.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.		http://www.rhnet.org/webpages/jfalci/files/graphing,%20reflection,%20distance2.pdf	Task: https://commoncoremathtasks.wikispaces.com/6.NS.5-8
	End of 4th Quarter					
	End of 2nd Semester					

Table 1 Common addition and subtraction situations

	Result Unknown	Change Unknown	Start Unknown
Add to	Two bunnies sat on the grass. Three more bunnies hopped there. How many bunnies are on the grass now? $2 + 3 = ?$ **(K)**	Two bunnies were sitting on the grass. Some more bunnies hopped there. Then there were five bunnies. How many bunnies hopped over to the first two? $2 + ? = 5$ **(1st)**	Some bunnies were sitting on the grass. Three more bunnies hopped there. Then there were five bunnies. How many bunnies were on the grass before? $? + 3 = 5$ **One-Step Problem** **(2nd)**
Take from	Five apples were on the table. I ate two apples. How many apples are on the table now? $5 - 2 = ?$ **(K)**	Five apples were on the table. I ate some apples. Then there were three apples. How many apples did I eat? $5 - ? = 3$ **(1st)**	Some apples were on the table. I ate two apples. Then there were three apples. How many apples were on the table before? $? - 2 = 3$ **One-Step Problem** **(2nd)**
	Total Unknown	**Addend Unknown**	**Both Addends Unknown[2]**
Put Together/ Take Apart[3]	Three red apples and two green apples are on the table. How many apples are on the table? $3 + 2 = ?$ **(K)**	Five apples are on the table. Three are red and the rest are green. How many apples are green? $3 + ? = 5, 5 - 3 = ?$ **(K)**	Grandma has five flowers. How many can she put in her red vase and how many in her blue vase? $5 = 0 + 5, 5 = 5 + 0$ $5 = 1 + 4, 5 = 4 + 1$ $5 = 2 + 3, 5 = 3 + 2$ **(1st)**
	Difference Unknown	**Bigger Unknown**	**Smaller Unknown**
Compare[4]	("How many more?" version): Lucy has two apples. Julie has five apples. How many more apples does Julie have than Lucy? **(1st)**	(Version with "more"): Julie has three more apples than Lucy. Lucy has two apples. How many apples does Julie have? **One-Step Problem** **(1st)**	(Version with "more"): Julie has 3 more apples than Lucy. Julie has five apples. How many apples does Lucy have? $5 - 3 = ?$ $? + 3 = 5$ **One-Step Problem** **(2nd)**
	("How many fewer?" version): Lucy has two apples. Julie has five apples. How many fewer apples does Lucy have than Julie? $2 + ? = 5, 5 - 2 = ?$ **(1st)**	(Version with "fewer"): Lucy has 3 fewer apples than Julie. Lucy has two apples. How many apples does Julie have? $2 + 3 = ?, 3 + 2 = ?$ **One-Step Problem** **(2nd)**	(Version with "fewer"): Lucy has three fewer apples than Julie. Julie has five apples. How many apples does Lucy have? **One-Step Problem** **(1st)**

K: Problem types to be mastered by the end of the Kindergarten year.
1st: Problem types to be mastered by the end of the First Grade year, including problem types from the previous year. However, First Grade students should have experiences with all 12 problem types.
2nd: Problem types to be mastered by the end of the Second Grade year, including problem types from the previous years.

Table 2 Common multiplication and division situations[1]

	Unknown Product $3 \times 6 = ?$	Group Size Unknown ("How many in each group?" Division) $3 \times ? = 18$, and $18 \div 3 = ?$	Number of Groups Unknown ("How many groups?" Division) $? \times 6 = 18$, and $18 \div 6 = ?$
Equal Groups	There are 3 bags with 6 plums in each bag. How many plums are there in all? *Measurement example.* You need 3 lengths of string, each 6 inches long. How much string will you need altogether?	If 18 plums are shared equally into 3 bags, then how many plums will be in each bag? *Measurement example.* You have 18 inches of string, which you will cut into 3 equal pieces. How long will each piece of string be?	If 18 plums are to be packed 6 to a bag, then how many bags are needed? *Measurement example.* You have 18 inches of string, which you will cut into pieces that are 6 inches long. How many pieces of string will you have?
Arrays,[2] **Area**[3]	There are 3 rows of apples with 6 apples in each row. How many apples are there? *Area example.* What is the area of a 3 cm by 6 cm rectangle?	If 18 apples are arranged into 3 equal rows, how many apples will be in each row? *Area example.* A rectangle has area 18 square centimeters. If one side is 3 cm long, how long is a side next to it?	If 18 apples are arranged into equal rows of 6 apples, how many rows will there be? *Area example.* A rectangle has area 18 square centimeters. If one side is 6 cm long, how long is a side next to it?
Compare	A blue hat costs \$6. A red hat costs 3 times as much as the blue hat. How much does the red hat cost? *Measurement example.* A rubber band is 6 cm long. How long will the rubber band be when it is stretched to be 3 times as long?	A red hat costs \$18 and that is 3 times as much as a blue hat costs. How much does a blue hat cost? *Measurement example.* A rubber band is stretched to be 18 cm long and that is 3 times as long as it was at first. How long was the rubber band at first?	A red hat costs \$18 and a blue hat costs \$6. How many times as much does the red hat cost as the blue hat? *Measurement example.* A rubber band was 6 cm long at first. Now it is stretched to be 18 cm long. How many times as long is the rubber band now as it was at first?
General	$a \times b = ?$	$a \times ? = p$, and $p \div a = ?$	$? \times b = p$, and $p \div b = ?$

[1]Adapted from Box 2-4 of Mathematics Learning in Early Childhood, National Research Council (2009, pp. 32, 33).

[2]The language in the array examples shows the easiest form of array problems. A harder form is to use the terms rows and columns: The apples in the grocery window are in 3 rows and 6 columns. How many apples are in there? Both forms are valuable.

[3]Area involves arrays of squares that have been pushed together so that there are no gaps or overlaps, so array problems include these especially important measurement situations.

Table 3 The properties of operations

Here a, b and c stand for arbitrary numbers in a given number system. The properties of operations apply to the rational number system, the real number system, and the complex number system.

Associative property of addition	$(a + b) + c = a + (b + c)$
Commutative property of addition	$a + b = b + a$
Additive identity property of 0	$a + 0 = 0 + a = a$
Associative property of multiplication	$(a \times b) \times c = a \times (b \times c)$
Commutative property of multiplication	$a \times b = b \times a$
Multiplicative identity property of 1	$a \times 1 = 1 \times a = a$
Distributive property of multiplication over addition	$a \times (b + c) = a \times b + a \times c$