2022-2023, Fifth Grade, Mathematics

Ongoing Mathematical Practices: 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.	**Effective Teaching Practices** 1. Establish mathematics goals to focus learning. 2. Implement tasks that promote reasoning and problem solving. 3. Use and connect mathematical representations. 4. Facilitate meaningful mathematical discourse. 5. Pose purposeful questions. 6. Build procedural fluency from conceptual understanding. 7. Support productive struggle in learning mathematics. 8. Elicit and use evidence of student thinking.
Ongoing fluency expectation: * 5.NBT.B.5 Multi-digit multiplication	***Ongoing resources*** *student journals* *Number Talks* Online Resources: *Xtramath* and Freckle Ed
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.	**Go Math** Q1 chapters 1-3 Q2 chapters 4-6 Q3 chapters 7, 8, **11**, then **9** through mid-chapter ✓ **High Stakes Test Prep wb by request** Q4 chapter 9 after mid chapter ✓ through chapter **10** **Getting Ready for Grade 6 (Planning Guide online)**

2022.23, Fifth Grade, Mathematics, Quarter 1

Content Standards	Student Friendly "I Can" Statements
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).	**I can** use parentheses and brackets to evaluate numerical expressions. **I can** use symbols, properties, and order of operations to solve problems. (The use of braces {} can be added.)
6.EE.B.6 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.	I can write algebraic expressions to represent real world situations. I can solve real-world problems using algebraic expressions.
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 x (8 + 7). Recognize that 3 x (18,932 + 921) is three times as large as 18,932 + 921, without having to calculate the indicated sum or product.*	**I can** write numerical expressions for numbers using words. **I can** interpret numerical expressions without evaluating them. **I can** apply the commutative, associative, and distributive properties.
6.EE.A.1 Write and evaluate numerical expressions involving whole-number exponents. 6.EE.A.2 Write, read, and evaluate expressions in which variables stand for numbers. (subparts a.b.c) 6.EE.A.3 Apply the properties of operations (including, but not limited to, commutative, associative, and distributive properties) to generate equivalent expressions. The distributive property is prominent here. (PEMDAS) 6.EE.A.4 Identify when expressions are equivalent.	6.EE.A.1 I can use the order of operations to simplify expressions which include addition, subtraction, multiplication, division, whole-number exponents and parentheses. 6.EE.A.2 I can translate verbal expressions into algebraic expressions and evaluate them for specific values. I can translate between verbal and algebraic expressions. 6.EE.A.3 I can apply number properties, such as commutative, associative, and distributive, to find equivalent expressions. 6.EE.A.4 I can identify expressions that are equivalent by using various methods (substitution, number properties). I can simplify expressions by combining like terms to show equivalency.

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.	**I can** explain how in a multi-digit number, a digit's place determines its value. **I can** explain why a digit in one place is worth 10 times more than the same digit in the place to the right and 1/10 as much as the same digit in the place to the left.
5.WCE.M.1 Read, write, and compare whole numbers to billions.	**I can** recognize, write, and compare whole numbers to billions using place value.
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. (Q1, Q2)*	**I can** analyze and interpret patterns in the number of zeros in each product when multiplying by powers of 10. **I can** demonstrate that when I multiply or divide a number by the powers of ten (10, 100, 1000) there is a pattern in the placement of the decimal point. **I can** explain why these patterns work.
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 3 x 100 + 4 x 10 + 7 x 1 + 3 x (1/10) + 9 x (1/100) + 2 x (1/1000)). [previously separated as parts **a**. and **b**.] Compare two decimals to thousandths based on meanings of the digits in each place and use the symbols >, =, and < to show the relationship.	**I can** read and write numbers from thousands to thousandths using standard form, word form, and expanded form using symbols and explanations. **I can** use the place value system to compare two decimals to the thousandths place.
5.NBT.A.4 Round decimals to the nearest hundredth, tenth, or whole number using understanding of place value.	**I can** round decimals to the nearest tenths, hundredths, and thousandths or whole number using understanding of place value. **I can** prove that my rounding is accurate using an open number line.
****5.NBT.B.5*** *Fluently multiply multi-digit whole numbers (up to three-digit by four-digit factors) using appropriate strategies and algorithms.*	***I can*** *explain how partial products or the distributive property relate to the steps in the standard algorithm.* ***I can*** *fluently multiply multi-digit whole numbers (up to three-digit by four-digit factors) using appropriate strategies and algorithms.*

5.WCE.M.2 Solve word problems involving the multiplication of multi-digit whole numbers.	**I can** solve a real-life problem that involves multiplying whole numbers up to three-digit by four-digit.
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.	**I can** divide up to a four-digit whole number by a two-digit whole-number divisor to find the quotient (with and without remainders). **I can** explain how inverse operations can be used to solve multiplication problems and to solve for unknown factors. **I can** illustrate and explain division problems using equations, rectangular arrays and/or area models. **I can** use multiple strategies such as expanded notation, partial quotients, the distributive property, and area models to solve division problems. See example of partial quotients using 364÷ *4*: Step 1 : 300 ÷ 4 = 75 Step 2: 60 ÷ 4 = 15 Step 3: 4 ÷ 4 = 1 Step 4: 75 + 15 + 1 = 91
5.NF.B.3 *Interpret a fraction as division of the numerator by the denominator ($\frac{a}{b}$ = a ÷ b). For example, $\frac{3}{4}$ = 3 ÷ 4 so when 3 wholes are shared equally among 4 people, each person has a share of size $\frac{3}{4}$. 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? (Q1,Q3)*	**I can** interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). **I can** recognize that when I divide two whole numbers and get a remainder, the remainder and the quotient together are parts of a whole. **I can** solve contextual problems involving the division of whole numbers that result in quotients that are in the form of fractions or mixed numbers. **I can** explain and illustrate my strategy when solving word problems that involve fractions by using visual fraction models or equations.
5.WCE.M.3 Select a reasonable solution to a real-world division problem in which the remainder must be considered.	**I can** demonstrate that the remainder in a division problem is really a fractional part of the whole (or a decimal) with the remainder being the numerator and the divisor being the denominator.

	I can interpret the context of a problem to determine whether a remainder may be dropped, used, or if my quotient must be rounded up.
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 the divisor is a whole number.) (Q1, Q2)*	**I can** explain the relationship between addition and subtraction of decimals to hundredths. **I can** use strategies and models to add and subtract decimals to hundredths and explain my reasoning. **I can** use strategies and models to multiply and divide decimals to hundredths and explain my reasoning. **I can** assess the reasonableness of answers using estimation strategies. (The division of a fraction by a fraction is not a requirement at this grade.)
6.NS.B.3 Fluently add, subtract, multiply, and divide multi-digit decimals using a standard algorithm for each operation. (Q1, Q2)	I can fluently add, subtract, multiply and divide multi-digit decimals using a standard algorithm for each operation without the use of a calculator.

2022.23, Fifth Grade, Mathematics, Quarter 2

Content Standards	Student Friendly "I Can" Statements
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. (Q1, Q2)*	**I can** analyze and interpret patterns in the number of zeros in each product when multiplying by powers of 10. **I can** demonstrate that when I multiply or divide a number by the powers of ten (10, 100, 1000) there is a pattern in the placement of the decimal point. **I can** explain why these patterns work.
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*	**I can** explain the relationship between addition and subtraction of decimals to hundredths.

reasonableness of answers using estimation strategies. (Limit division problems so that either the dividend or the divisor is a whole number.) (Q1, Q2)	**I can** use strategies and models to add and subtract decimals to hundredths and explain my reasoning. **I can** use strategies and models to multiply and divide decimals to hundredths and explain my reasoning. **I can** assess the reasonableness of answers using estimation strategies. (The division of a fraction by a fraction is not a requirement at this grade.)
6.NS.B.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. (Q1, Q2)	**I can** fluently add, subtract, multiply and divide multi-digit decimals using a standard algorithm for each operation without the use of a calculator.
5.NF.A.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. *For example, $\frac{2}{3}+\frac{5}{4}=\frac{8}{12}+\frac{15}{12}=\frac{23}{12}$. (In general, $\frac{a}{b}+\frac{c}{d}=\frac{(ad+bc)}{bd}$.)*	**I can** find common denominators. **I can** add and subtract fractions with unlike denominators using equivalent fractions. **I can** add and subtract mixed numbers with unlike denominators using equivalent fractions. (Students should type fractions correctly using the equation editor.)
6.NS.A.1 Interpret and compute quotients of fractions, and solve contextual problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. 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) ÷ (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? (Q2, Q3)	**I can** solve word problems involving the division of fractions by fractions. **I can** create a model of fractional division in a word problem.

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 $\frac{2}{5}+\frac{1}{2}=\frac{3}{7}$, by observing that $\frac{3}{7}<\frac{1}{2}$.	**I can** solve word problems involving addition and subtraction of fractions with like and unlike denominators. **I can** check to see if my solution is reasonable by mentally estimating the answer using benchmark fractions. **I can** use visual fraction models or equations to represent conceptual problems.
5.WCE.M.4 Memorize benchmark fractions (¾, ½, ⅓, ¼, ⅕, and 1/10) and convert to decimals without the use of a calculator.	**I can** convert benchmark fractions to decimals without the use of a calculator.
5.WCE.M.5 Differentiate between equivalent fractions, mixed numbers, improper fractions, and decimal representations for the same number and convert back and forth.	**I can** identify fractions and convert to and from mixed numbers, improper fractions, and decimals. **I can** evaluate when it is necessary to convert a fraction to simplest form, a mixed number, an improper fraction or a decimal.
5.WCE.M.6 Interpret percent as another way to write a portion of a whole that has 100 parts.	**I can** explain why a percent is equivalent to a fraction or decimal involving hundredths. **I can** convert between fraction, decimal, and percent representations of the same value.
5.WCE.M.7 Analyze the value of a fraction in order to compare it to other fractions, whole numbers, mixed numbers, and decimals using <, >, or =.	**I can** analyze the value of a fraction in order to compare it to other fractions, whole numbers, mixed numbers, and decimals using >, <, or =.
***5.NBT.B.5** Fluently multiply multi-digit whole numbers (up to three-digit by four-digit factors) using appropriate strategies and algorithms. (Q1-4)*	***I can** explain how partial products or the distributive property relate to the steps in the standard algorithm.* ***I can** fluently multiply multi-digit whole numbers (up to three-digit by four-digit factors) using appropriate strategies and algorithms.*

2022-23 Fifth Grade, Mathematics, Quarter 3

Content Standards	Student Friendly "I Can" Statements
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. **a.** Interpret the product $\frac{a}{b} \times q$ as a x $(q \div b)$ (partition the quantity q into b equal parts and then multiply by a). Interpret the product $\frac{a}{b}$ x q as $(a \times q) \div b$ (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* $\frac{2}{3}$ *x 6 can be interpreted as 2 x (6 ÷ 3) or (2 x 6) ÷ 3. Do the same with* $\frac{2}{3}$x$\frac{4}{5}$. = $\frac{8}{15}$. (In general,$\frac{a}{b}$ x $\frac{c}{d}$ = $\frac{ac}{bd}$.) **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 and represent fraction products as rectangular areas.	**I can** multiply a fraction by a whole number. **I can** interpret the product when multiplying fractions. **I can** explain, construct and use a model to illustrate that (a/b) x (c/d) = ac/bd. **I can** write a word problem that involves multiplying fractions. **I can** use manipulatives or models to determine the area of rectangles with fractional side lengths. **I can** determine the area of rectangles with fractional side lengths by multiplying the length by the width.
5.WCE.M.8 Memorize the formula for calculating the area of a rectangle ($A = lw$ or $A = bh$).	**I can** apply a formula when finding the area of a rectangle.
5.NF.B.5 Interpret multiplication as scaling (resizing). **a.** 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. **b.** 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	**I can** explain the relationship between two multiplication problems that share a common factor. (225 x 60 and 225 x 30) **I can** use compatible numbers to estimate products of fractions. **I can** compare the product to the two factors without multiplying. For example, the product of ½ and ¼ will be smaller than each of the factors. **I can** explain why multiplying a fraction greater than one will result in a product greater than the given number. **I can** justify that multiplying a fraction by one, results in an equivalent fraction.

number by a fraction less than 1 results in a product less than the given number; and relate the principle of fraction equivalence $\frac{a}{b}=\frac{a\ x\ n}{b\ x\ n}$ to the effect of multiplying $\frac{a}{b}$ by 1.	**I can** explain why multiplying a given number by a fraction less than one will result in a product smaller than the given number. (2 x ¼ < 2)
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.	**I can** solve real world problems involving multiplication of fractions and mixed numbers using models, equations, and words.
5.NF.B.3 *Interpret a fraction as division of the numerator by the denominator ($\frac{a}{b}$ = a ÷ b). For example, $\frac{3}{4}$ = 3 ÷ 4 so when 3 wholes are shared equally among 4 people, each person has a share of size $\frac{3}{4}$. 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? (Q1, Q3)*	**I can** interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). **I can** recognize that when I divide two whole numbers and get a remainder, the remainder and the quotient together are parts of a whole. **I can** solve contextual problems involving the division of whole numbers that result in quotients that are in the form of fractions or mixed numbers. **I can** explain and illustrate my strategy when solving word problems that involve fractions by using visual fraction models or equations.
5.NF.B.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. *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.* **b.** 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) =*	**I can** justify unit fractions as having a one as the numerator. **I can** explain the relationship between dividing by a fraction and multiplying by its reciprocal. **I can** illustrate and explain division of a fraction by a whole number by using equations and visual models. (Ex: ¼ ÷ 5 means 1 whole is broken into 4 equal parts or fourths; each of those fourths is broken into 5 equal parts resulting in pieces that are 1/20 of the original whole.) **I can** divide whole numbers by unit fractions. **I can** explain division of a whole number by a fraction by using equations and visual models. (Ex: 5 ÷ ¼ means 5 wholes broken into 4 pieces each for a total of 20 pieces.)

20 because 20 x (1/5) = 4. **c.** 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?* * Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division, but division of a fraction by a fraction is not a requirement at this grade.	**I can** demonstrate division of a fraction by a non-zero whole number using equations, models, and/or words. **I can** explain the inverse relationship between multiplication and division of fractions. **I can** explain the relationship between dividing a fraction by a whole number and dividing a whole number by a unit fraction. **I can** create and solve (using expressions) story problems using division of fractions and multiplication of fractions based on a context from real life situations. **I can** demonstrate division of a fraction by a non-zero whole number and division of whole numbers by fractions **and** represent both using both a visual model and an equation.
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. 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) ÷ (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? (Q2, Q3)	
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.*	**I can** justify that two-dimensional attributes can belong to several two-dimensional figures. **I can** sort two dimensional figures based on their properties. **I can** recognize two-dimensional shapes can be classified into one or more categories becoming more specific.

	I can classify two-dimensional figures into categories and/or sub-categories (hierarchy) based on their attributes. (i.e., a polygon, a quadrilateral, a parallelogram, a square).
5.MD.C.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement. **a.** 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. **b.** 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.	**I can** explain what volume means and measure the volume of three-dimensional figures. **I can** describe one cubic unit as a three-dimensional figure with length of 1 unit, width of 1 unit, and height of 1 unit. **I can** demonstrate that unit cubes can be used to measure volume of three-dimensional shapes by packing a solid figure with unit cubes.
5.MD.C.4 Measure volume by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.	**I can** measure the volume of a solid figure by counting the number of unit cubes. **I can** label volume using appropriate cubic units.
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. **a.** 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).* **b.** 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	**I can** multiply the height by the area of the base, in either order, to calculate the volume of a right rectangular prism. **I can** justify that multiplication of the area of the base of a three-dimensional figure by its height given its volume. **I can** relate finding the product of 3 numbers to finding volume and relate both to the associative property of multiplication. **I can** find the volume of an object presented in a problem. **I can** identify a right rectangular prism according to its attributes. **I can** demonstrate the volume of a right rectangular prism with whole number side lengths by packing it with unit cubes, then counting them.

rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real-world and mathematical problems. **c.** 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.	
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.*	**I can** find the average of a group of numbers. [Mean and use of brackets are prerequisite skills.] **I can** create a line plot to display measurements given in fractions of a unit. **I can** solve problems using information from line plots that require operations with fractions.
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).*	**I can** graph and label points using the first quadrant of the coordinate plane. **I can** locate and identify the origin of the coordinate system at (0, 0). **I can** name the coordinates of a given point as an ordered pair. **I can** locate a point on a coordinate plane when given its coordinates.
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.	**I can** graph points in all four quadrants of the coordinate plane to solve a real-world problem. **I can** find either a vertical or horizontal distance between points on the coordinate plane.

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.	**I can** model real world and mathematical problems by graphing points in the first quadrant of the coordinate system. **I can** describe each coordinate in the context of the problem situation.
6.NS.C.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.	**I can** use integers to describe quantities having opposite directions or values. **I can** use integers to represent quantities in real world context, while explaining the meaning of 0 in each situation.
***5.NBT.B.5** Fluently multiply multi-digit whole numbers (up to three-digit by four-digit factors) using appropriate strategies and algorithms. (Q1-4)*	***I can** explain how partial products or the distributive property relate to the steps in the standard algorithm.* ***I can** fluently multiply multi-digit whole numbers (up to three-digit by four-digit factors) using appropriate strategies and algorithms.*

2022-23, Fifth Grade, Mathematics, Quarter 4

Content Standards	Student Friendly "I Can" Statements
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.* a. Identify 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.* b. Form ordered pairs consisting of corresponding terms from two numerical patterns and graph the ordered pairs on a coordinate plane.	**I can** generate two numerical patterns with different rules. **I can** identify relationships between corresponding numerical patterns by comparing how each pattern grows. **I can** explain the relationship between two numerical patterns by comparing the relationship between each of the corresponding terms. For example, *x* x 2 = *y*. **I can** form ordered pairs consisting of corresponding terms from two numerical patterns and graph the ordered pairs on a coordinate plane. **I can** use words and numbers to explain the relationship between corresponding terms from the two patterns used to form ordered pairs.
5.WCE.M.9 Memorize standard units of measurement including 1 foot=12 inches, 1 yard=3 feet, 1 mile = 5,280 feet, 1 meter=1000 millimeters, 1 gram = 1000 milligrams, and 1 liter=1000 cubic centimeters. (5th grade students will have access to the TNReady Math Reference Sheet.	**I can** convert standard (customary) and metric units of measurement from larger to smaller and smaller to larger from memory.
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.* *Previous standard 4.MD.1 is embedded.* *This may include dividing decimals by decimals.*	**I can** multiply or divide to convert measurements within the same measurement system by expressing measurements in a larger unit in terms of a smaller unit. **I can** use these conversions to solve multi-step real world problems involving distances, intervals of time, liquid volumes, masses of objects, and money. **I can** use fractional equivalencies to convert customary units of measure. **I can** use place value strategies to convert metric units of measure (using decimals).

5.WCE.M.10 Find the unknown in single step equations involving whole numbers.	**I can** solve single-step equations with whole numbers using inverse operations. **I can** show how to balance an equation.

Embedded K-8 TN Computer Science Standards: referenced in resource column

FCO.6 Select and use appropriate word processing, spreadsheets, and multimedia applications.

AIT.3 Determine the best technology and appropriate tool to address a variety of tasks and problems.

AIT.4 Use multiple processes and diverse perspectives to explore alternative solutions.

AIT.8 Identify that various algorithms can achieve the same result and determine the most efficient sequence.

Getting Ready for Grade 6

***5.NBT.B.5** Fluently multiply multi-digit whole numbers (up to three-digit by four-digit factors) using appropriate strategies and algorithms. (Q1-4)*	***I can** explain how partial products or the distributive property relate to the steps in the standard algorithm.* ***I can** fluently multiply multi-digit whole numbers (up to three-digit by four-digit factors) using appropriate strategies and algorithms.*
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 x (8 + 7). Recognize that 3 x (18,932 + 921) is three times as large as 18,932 + 921, without having to calculate the indicated sum or product.*	**I can** write numerical expressions for numbers using words. **I can** interpret numerical expressions without evaluating them. **I can** apply the commutative, associative, and distributive properties.
6.NS.B.2 Fluently divide multi-digit numbers using a standard algorithm (without the use of a calculator).	**I can** fluently divide multi-digit numbers using a standard algorithm without the use of a calculator.