**Lincoln Elementary School Curriculum Prioritization and Mapping**
**5th Grade Math**

| Timeline | Priority | Standard | Learning Targets |
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| **Unit 1:**<br><br>Order of Operations and Whole Numbers<br><br>**5 wks** | **E** | 5.OA.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. | I can solve expressions using order of operations including parenthesis, brackets, or braces |
| | **C/I** | 5.OA.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).<br>Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921,<br>without having to calculate the indicated sum or product. | I can write a number sentence from given operation words, I can write operation words to describe a given number sentence, I can interpret number sentences without solving them |
| | **E** | 5.NBT.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<br>what it represents in the place to its left. | I can use my knowledge of place value to explain the value of a numeral in relation to another numeral in a multi-digit number |
| | **E** | 5.NBT.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. | I can write powers of 10, I can explain the relationship of the placement of the decimal point when a decimal is multiplied or divided by a power of 10 |
| | **E** | 5.NBT.5 Fluently multiply multi-digit whole numbers using the standard algorithm. | I can multiply multi-digit whole numbers using the standard algorithm |
| | **E** | 5.NBT.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, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. | I can find whole number quotients when given a 4-digit dividend and two digit divisor problems, I can illustrate 4- digit dividend and two digit divisor problems using equations, rectangular arrays, and/or area models |

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| **Unit 2:**<br><br>Decimals<br><br>**5 weeks** | **E** | 5.NBT.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<br>what it represents in the place to its left. | I can use my knowledge of place value to explain the value of a numeral in relation to another numeral in a multi-digit number |
| | **I** | 5.NBT.3 Read, write, and compare decimals to thousandths.<br>A. Read and write decimals to thousandths using base-ten numberals, number names, and expanded form, e.g., 347.395=3x100+4x10+7x1+3x(1/10)+9x(1/100)+2x(1/1000).<br>B. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. | I can read and write decimals to the thousandths<br>I can compare two decimals to the thousandths using <, >, = based on the palce value of each digit |
| | **E** | 5.NBT.4 Use place value understanding to round decimals to any place. | I can use my understanding of place value to round decimals to any place |
| | **E** | 5.NBT.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 relatioinship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. | I can add and subtract decimals to the hundredths using a variety of strategies and explain my reasoning |
| **Unit 3:**<br><br>Multiplying and Dividing with Decimals<br><br>**5 weeks** | **E** | 5.NBT.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. | I can write powers of 10, I can explain the relationship of the placement of the decimal point when a decimal is multiplied or divided by a power of 10 |
| | **E** | 5.NBT.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 relatioinship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. | I can add and subtract decimals to the hundredths using a variety of strategies and explain my reasoning |

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| **Unit 4:**<br><br>Adding, Subtracting, Multiplying, and Dividing Fractions<br><br>**5 weeks** | **E** | 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. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.) | I can add and subtract fractions with like and unlike denominators using equivalent fractions, I can add and subtract mixed numbers with like and unlike denominators using equivalent fractions |
| | **E** | 5.NF.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using 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. | I can solve addition and subtraction fraction word problems, I can use benchmark fractions to check the reasonableness of my answer |
| | **E/I** | 5.NF.3 Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. 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. 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? | I can solve word problems using division of whole numbers leading to quotients in fraction or mixed numbered form |

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| **E** | 5.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.<br>**a**. Interpret the product (a/b) x q as a parts of a partition of q into b equal parts; equivalently, as a result of a sequence of operations a x q / b. For example, use a visual fraction model to show (2/3) × 4 = 8/3, 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.)<br>**b**. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. 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 fraction. (In general, (a/b) × (c/d) = ac/bd.) , I can multiply a fraction by a whole number. (for example ¾ x 3 = (3 x 3)/4 = 9/4)<br>I can find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate fraction unit<br>I can multiply fractional side lengths to find areas of rectangles<br>I can show that the area found by multiplying side lengths is the same as would be found by tiling with unit squares |
| **E** | 5.NF.5 Interpret multiplication as scaling (resizing), by:<br>**a.** 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.<br>**b.** Explaining 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); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence a/b=(nxa)/(nxb) to the effect of multiplying a/b by 1. | I can compare the size of the product to the size of each factor without performing the multiplication, I can explain that multiplying a fraction greater than one will result in a greater product, I can explain that multiplying a fraction by a fraction will result in a smaller product. I can explain when multiplying a fraction by 1, the product will be the same. |
| **E** | 5.NF.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem. | I can solve real world problems by multiplying fractions and mixed numbers |

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| | **E** | 5.NF.7abc Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. 1Students 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. a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for (1/3) divided by 4, and use a visual fraction model to show the quotient. Use relationships 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, 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 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, e.g., 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? | I can solve real-world division problems involving unit fractions and nonzero whole numbers using models, equations, or the relationship with multiplication |
| | **E** | 5.MD.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 use basic operations to solve problems with information presented in line plots which use fractions of a unit (1/2, 1/4, 1/8) |

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| **Unit 5:**<br><br>Geometry and the Coordinate Plane<br><br>**4 weeks** | **E** | 5.G.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). | I can use a pair of perpendicular lines/axes to define a coordinate system<br>I can locate origin on the coordinate system<br>I can identify the x- and y-axis<br>I can identify coordinates of a point on the coordinate system<br>I can explain the relationship between an ordered pair and the x- and y-axis |
| | **I** | 5.G.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 represent a real world problem by graphing points in the first quadrant of a coordinate plane<br>I can identify the coordinates of a given point |
| | **E** | 5.OA.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered<br>pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. 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, and observe<br>that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so. | I can create two numerical patterns using two given rules, I can form ordered pairs based on two patterns and graph them on a coordinate plane |
| **Unit 6:**<br><br>2D Figures<br><br>**4 weeks** | **I** | 5.G.3 Understand that attributes belonging to a category of twodimensional figures also belong to all subcategories of that category.<br>For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles. | I can explain that some two-dimensional shapes can be classified into more than one category<br>I can explain that any shape that belongs in a category also belongs in all its subcategories (e.g. all rectangles have four right angles and squares are rectangles, so all squares have four right angles) |

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| | **I** | 5.G.4 Classify two-dimensional figures in a hierarchy based on properties. | I can classify two-dimensional figures into categories and subcategories based on properties/attributes |
| **Unit 7:**<br><br>Volume and Measurement<br><br>**4 weeks** | **I** | 5.MD.1 Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems. | I can solve multi-step, real-world problems that involve converting units |
| | **E** | 5.MD.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 use basic operations to solve problems with information presented in line plots which use fractions of a unit (1/2, 1/4, 1/8) |
| | **I** | 5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.<br>**a.** 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.<br>**b.** 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 how unit cubes can be used to measure volume. |
| | **I/E** | 5.MD.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units. | I can measure volume by counting unit cubes, cubic cm, cubic in, and cubic ft |

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| | **I** | 5.MD.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.<br>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 threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.<br>b. Apply the formulas V = l × w × h and V = b × h for rectangular prisms to find volumes of right rectangular prisms with wholenumber edge lengths in the context of solving real world and mathematical problems.<br>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. | I can find the volume of a rectangular prism using formulas or unit cubes, I can solve real-world volume problems involving non-overlapping rectangular prisms by adding their separate volumes to find the total volume |
| **Unit 8:**<br><br>Show What We Know<br><br>**3 weeks** | | Review for KPREP | All of the I Can Statements above. |

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