

West Deptford Middle School Curriculum Map Math – Grade 5

5th Grade Math Curriculum Map

Major **Supporting** **Additional**

<p style="text-align: center;">Month Weeks Unit</p> <p style="text-align: center;">State timeline Sept 8-Oct 23</p>	<p style="text-align: center;">Essential Question</p>	<p style="text-align: center;">Content</p>	<p style="text-align: center;">Skills</p>	<p style="text-align: center;">Assessment</p>	<p style="text-align: center;">Standards</p>
<p>Unit 1</p> <p>September- mid October (approx. 6 weeks)</p>	<p>How does understanding place value help us to compare, order, and round whole numbers and decimals?</p> <p>How does the position of a number affect its value?</p>	<p>Place Value</p>	<ul style="list-style-type: none"> -Identify place values -Write whole numbers and decimals to thousandths in standard, word, and expanded form -Write a fraction as a decimal and a decimal as a fraction -Compare, round, and order decimals to the thousandths -Explain patterns when multiplying or dividing whole numbers by a power of 10 -Multiply and divide decimals by powers of 10 -Write numbers in exponential notation -Use scientific notation to multiply and divide whole numbers and decimals by powers of 10 	<p>STAR Math Assessment</p> <p>Link It! Assessment</p> <p>Model Curriculum Unit 1 Assessment</p> <p>Teacher Observation</p> <p>Anecdotal Records</p> <p>Class Discussions</p> <p>Student Participation</p> <p>Exit Slips</p> <p>Open-Ended Questions</p> <p>Student-madeTutorials</p> <p>Quizzes</p> <p>Unit Tests</p> <p>Performance Tasks</p> <p>Ten Marks</p> <p>Accelerated Math</p>	<p>5.NBT.1</p> <p>5.NBT.2</p> <p>5.NBT.3</p> <p>5.NBT.4</p>

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Month Weeks Unit	Essential Question	Content	Skills	Assessment	Standards
Unit 1 (con't) Mid October-early November (approx. 2-3 weeks)	<p>What makes a strategy for working with numbers efficient and effective?</p> <p>Why is fluency in computing important in life?</p> <p>How can place value properties aid computation?</p> <p>How does understanding the relationship between mathematical operations help me solve problems?</p>	<p>Multiply multi-digit whole numbers. <i>*(grade level Fluency requirement)</i></p>	<ul style="list-style-type: none"> - Identify multiplication properties (Commutative, Associative, Identity, Zero, and Distributive) - Estimate products - Multiply 3 digit by 1 digit - Multiply 2 digit by 2 digit - Multiply 3 digit by 2 digit - Draw pictures and write equations to represent multiplication problems 		<p>5.NBT.5</p>

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Month Weeks Unit	Essential Question	Content	Skills	Assessment	Standards
Unit 1 (con't) Mid November- start of December (approx. 3 weeks)	<p>What makes a strategy for working with numbers efficient and effective?</p> <p>Why is fluency in computing important in life?</p> <p>How can place value properties aid computation?</p> <p>How does understanding the relationship between mathematical operations help me solve problems?</p>	<p>Division (whole number quotients- 4 digit dividends by 2 digit divisors)</p>	<p><i>Divide by 1 digit divisors:</i></p> <ul style="list-style-type: none"> -Use patterns to divide mentally - Divide multiples of 10 and 100 Example: 10 /5, 100/5 -Estimate quotients -Explain division calculations using a model -Illustrate and explain calculations by using equations -Use inverse operation to check calculations <p><i>Divide by 2 digit divisors:</i></p> <ul style="list-style-type: none"> -Use patterns to divide mentally - Divide multiples of 10 and 100 Example: 100 /50, 1000/50 -Estimate quotients -Explain division calculations using an area model -Illustrate and explain calculations by using equations -Use inverse operations to check calculations 		<p>5.NBT.6</p>

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Month Weeks Unit	Essential Question	Content	Skills	Assessment	Standards
Unit 1 (con't) Mid December - (approx. 2 weeks) *finish before Holiday Break	<p>How do we use numerical expressions to solve real life situations?</p> <p>What is the purpose of using brackets, parentheses, and braces in numerical expressions?</p> <p>How does understanding the relationship between mathematical operations help me solve problems?</p>	<p>Use the Order of Operations to write and simplify expressions.</p>	<ul style="list-style-type: none"> -Write an expression using a variable -Identify the <i>Order of Operations</i> -Follow the <i>Order of Operations</i> to solve expressions -Insert parentheses to make equations true -Simplify expressions with a variable -Evaluate expressions with brackets and variables -Translate algebraic expressions into word phrases -Translate word phrases into algebraic expressions 		<p>5.OA.1 5.OA.2</p>

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Math Vocabulary

Unit 1: Place Value, Multiplication,
Division, Order of Operations

<p>Expression Equation Place Value Simplify/ simplification Operation Total Sum Product Quotient Factor Multiple Multiple of 10 Dividend Divisor Remainder Calculation Model Area model</p>	<p>Digit "how many times as much" Place value Result Comparison (>,<=) Round Tenth Hundredth Thousandth Whole number Algorithm Period Compare Fraction Decimal Equivalent Standard form Expanded form</p>	<p>Exponential notation Base exponent Estimation Reasonableness Variable Algebraic expression Order of Operations Parentheses brackets Properties of Multiplication: Commutative Property, Associative Property, identity Property, Zero Property, Distributive Property **Verbs that appear on model assessment: Represent, describe, relate, explain, supply, demonstrate, evaluate</p>
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<p style="text-align: center;">Month Weeks Unit</p> <p style="text-align: center;">State timeline Oct 26—Dec 18</p>	<p style="text-align: center;">Essential Question</p>	<p style="text-align: center;">Content</p>	<p style="text-align: center;">Skills</p>	<p style="text-align: center;">Assessment</p>	<p style="text-align: center;">Standards</p>
<p>Unit 2</p> <p>January (approx. 3 weeks)</p>	<p>How does what I'm measuring influence how I measure?</p> <p>How does multiplication and addition help me find area?</p> <p>What is volume and for what purposes do you use it?</p> <p>What units of measure can be used to determine volume?</p> <p>How does length, width, and height (LxWxH) or base and height (BxH)</p>	<p>Volume</p>	<ul style="list-style-type: none"> -Identify solid figures: pyramid, cylinder, cone, prism -Identify edges, faces, vertices -Consider different views of solids: top, front, and side to discuss blocks that are not visible -Use models to explore volume of prisms in cubic units (place value blocks/cubes) -Relate volume to multiplication -Explain how the formula relates to counting cubes in one layer and multiplying by the number of layers (height) -Use a formula to find the volume of a rectangular prism -Relate volume to addition -Additive Volume: Use a volume formula to combine volumes of solid prisms -choose appropriate cubic units based on attributes of a 3D figure 	<p>STAR Math Assessment</p> <p>Link It! Assessment</p> <p>Model Curriculum Unit 2 Assessment</p> <p>Teacher Observation</p> <p>Anecdotal Records</p> <p>Class Discussions</p> <p>Student Participation</p> <p>Exit Slips</p> <p>Open-Ended Questions</p> <p>Student-made Tutorials</p> <p>Quizzes</p> <p>Unit Tests</p> <p>Performance Tasks</p> <p>Ten Marks</p> <p>Accelerated Math</p>	<p>5.MD.3</p> <p>5.MD.4</p> <p>5.MD.5</p>

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<p><i>*Spiral review from unit 1</i></p>	<p>measure volume?</p> <p>How do we use numerical expressions to solve real life situations?</p>	<p>Use the Order Of Operations to write and simplify expressions</p>	<p><i>*Spiral review from Unit 1</i></p>		<p>5.OA.2</p>
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Math Vocabulary

Unit 2: Volume

Solid Three dimensional shape Cube X^3 (cubed) Face Vertex, vertices Edge Prism Cylinder Cone Pyramid Unit block Cubic unit Volume	Layer Model Rectangular prism Area Base Formula Additive volume Gaps/ overlapping/ non-overlapping Expression Equation Words on model assessment to familiarize students with: represented, partially, indicate, additional, diagram
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<p style="text-align: center;">Month Weeks Unit</p> <p style="text-align: center;">State timeline Jan 4-Feb 26</p>	<p style="text-align: center;">Essential Question</p>	<p style="text-align: center;">Content</p>	<p style="text-align: center;">Skills</p>	<p style="text-align: center;">Assessment</p>	<p style="text-align: center;">Standards</p>
<p>Unit 3</p> <p><i>Spiral Review from Unit 1</i></p>	<p>How does understanding the relationship between mathematical operations help me solve problems?</p> <p>What makes a strategy for working with numbers efficient and effective?</p> <p>Why is fluency in computing important in life?</p> <p>How can place value properties aid computation?</p>	<p>Multi-digit Multiplication</p> <p>*(grade level fluency requirement)</p>	<p><i>Spiral Review from Unit 1</i></p>	<p>STAR Math Assessment</p> <p>Lint It! Assessment</p> <p>Model Curriculum Unit 3 Assessment</p> <p>Teacher Observation</p> <p>Anecdotal Records</p> <p>Class Discussions</p> <p>Student Participation</p> <p>Exit Slips</p> <p>Open-Ended Questions</p> <p>Student-madeTutorials</p> <p>Quizzes</p> <p>Unit Tests</p> <p>Performance Tasks</p> <p>Ten Marks</p> <p>Accelerated Math</p>	<p>5.NBT.5</p>

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Month Weeks Unit	Essential Question	Content	Skills	Assessment	Standards
Unit 3 (con't) End of January (approx. 3 weeks)	<p>Why do we need to find equivalent fractions?</p> <p>How do I know an answer/estimate is reasonable?</p> <p>When are fractions, decimals, and whole numbers used together in real life?</p> <p>How do mathematical operations relate to fractions and decimals?</p> <p>How are fractions and decimals used in real-world situations?</p>	<p>Add and subtract fractions and mixed numbers with unlike denominators</p>	<p>Fractions:</p> <ul style="list-style-type: none"> -Find equivalent fractions -Reduce fractions to simplest form - Solve word problems involving the addition and subtraction of fractions with unlike denominators -Estimate sums and differences of fractions using benchmark numbers -Find common multiples and least common multiples -Find common denominators -Add and subtract fractions with unlike denominators -Draw pictures and write equations involving fractions <p>Improper Fractions and Mixed Numbers:</p> <ul style="list-style-type: none"> -Convert improper fractions to mixed numbers -Convert mixed numbers to improper fractions -Estimate sums and differences of mixed numbers using benchmark 		<p>5.NF.1 5.NF.2</p>

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<p>2 days (This does not have to be taught in isolation. It can be incorporated while introducing fractions.)</p>		<p>Interpret a fraction as division</p>	<ul style="list-style-type: none">-Use models (fraction strips) to add and subtract mixed numbers-Add mixed numbers-Subtract mixed numbers-Draw pictures and write equations to add and subtract mixed numbers- Solve word problems involving the addition and subtraction of fractions with unlike denominators <ul style="list-style-type: none">-Write a division expression to represent a fraction-Write a fraction to represent a division expression-solve word problems where division of whole numbers leads to fractional or mixed number answers.-Use picture models to relate fractions to division (Example: Splitting whole pizzas among students)		<p>5.NF.3</p>
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Month Weeks Unit	Essential Question	Content	Skills	Assessment	Standards
Unit 3 (con't) End of February (approx. 2 weeks)		Multiply Fractions by Whole Numbers and draw visual models or create story context	<ul style="list-style-type: none"> -Use number sense to analyze products when a whole number is multiplied by a fraction (<i>Example:</i> $3 \times \frac{1}{2}$) -Find the area of a rectangle with fractional side lengths by tiling unit squares and multiplying side lengths. -Explain how a product is related to the magnitude of the factors. 		5.NF.4a 5.NF.4b 5.NF.5a,b

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Math Vocabulary

Unit 3:

Sum Difference Product Quotient Addend Divisor Dividend Decimal Expression Equation Commutative Property Associative Property Compatible numbers Estimate	Hundred/hundredth grid Equivalent fractions Numerator Denominator Simplest form Common denominator Benchmark fraction ($\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1) Common Multiple Least Common Multiple - LCM Least Common Denominator- LCD Improper fraction Proper fraction Mixed Number	Customary units of length, capacity, and weight Metric units of length, capacity, and mass Words from Model Assessment to familiarize students with: describe, represent, related, indicate, 1/10 times, 1/10 of, true comparison, proper fractions, quantity, division expression, standard algorithm
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<p style="text-align: center;">Month Weeks Unit</p> <p style="text-align: center;">State timeline Feb 29-April 22</p>	<p style="text-align: center;">Essential Question</p>	<p style="text-align: center;">Content</p>	<p style="text-align: center;">Skills</p>	<p style="text-align: center;">Assessment</p>	<p style="text-align: center;">Standards</p>
<p>Unit 4</p> <p>-Spiral Review from Unit 1</p> <p>Early March Approx. 2-3 days</p> <p>Early-Mid March Approx. 1 week</p>	<p>How does the position of a number affect its value?</p> <p>How does understanding the relationship between mathematical operations help me solve problems?</p> <p>What makes a strategy for working with numbers efficient and effective?</p> <p>Why is fluency in computing important in life?</p> <p>How can place value properties aid computation?</p>	<p>Place Value</p> <p>Add and subtract decimals to hundredths</p> <p>Multiply decimals to hundredths</p>	<p>-Spiral Review from Unit 1</p> <p>-Estimate sums and differences</p> <p>-Use concrete models and drawings to add and subtract decimals (hundred grids)</p> <p>-Add decimals to hundredths</p> <p>-Subtract decimals to hundredths</p> <p>*Including computation in multi-step problems</p> <p>-Review multiplication properties</p> <p>-Estimate the product of a decimal and whole number</p> <p>-Use concrete models and drawings to multiply a decimal by a decimal (grid paper/hundred grids)</p> <p>-Multiply a decimal by a whole number</p> <p>-Multiply a decimal by a decimal</p> <p>-Solve multi-step word problems involving the multiplication of decimals.</p> <p>-Estimate decimal quotients</p> <p>-Use concrete models to find quotients</p>	<p>STAR Math Assessment</p> <p>Lint It! Assessment</p> <p>Model Curriculum Unit 4 Assessment</p> <p>Teacher Observation</p> <p>Anecdotal Records</p> <p>Class Discussions</p> <p>Student Participation</p> <p>Exit Slips</p> <p>Open-Ended Questions</p> <p>Student-made Tutorials</p> <p>Quizzes</p> <p>Unit Tests</p> <p>Performance Tasks</p> <p>Ten Marks</p> <p>Accelerated Math</p>	<p>5.NBT.1</p> <p>5.NBT.7</p>

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<p>End March Approx. 1 week</p>	<p>Why do we convert units of measurement?</p> <p>How can measurement be used to solve problems?</p> <p>How does what we measure affect how we measure it?</p>	<p>Divide decimals to hundredths</p>	<p>(place value blocks) -Divide a whole number by a decimal -Divide a decimal by a decimal -Solve multi-step word problems involving division of decimals</p>		<p>5.MD.1</p>
<p>Early April Approx. 1-2 weeks</p>		<p>Customary Conversions</p>	<p>Customary: -Identify, compare, and convert units of length in the customary system: inches, feet, yards, miles -Identify, compare, and convert units of capacity in the customary system: gallons, quarts, pints, cups, fluid ounces -Identify, compare, and convert units of weight in the customary system: tons, pounds, ounces -Solve multi-step real world problems involving customary conversions</p>		
<p>Early-Mid April Approx. 1 week</p>		<p>Metric Conversions</p>	<p>Metric: -Identify, compare, and convert units of length, capacity, and mass in the metric system: *Use prefixes kilo-, hector-, deca-, unit, deci-, centi, milli- *Units: meters, liters, grams -Solve multi-step real world problems involving metric conversions.</p>		

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<p>Mid-End April Approx. 1 week</p>	<p>How does the division of fractions relate to multiplication of fractions?</p> <p>What is the result when we multiply two fractions? Fraction and a whole number?</p> <p>In what real world situations would I have to multiply fractions and mixed numbers?</p> <p>How does multiplication and addition help me find area?</p>	<p>Multiply Fractions (including mixed numbers)</p>	<ul style="list-style-type: none"> -Multiply a fraction by a whole number -Estimate products using benchmark fractions -Use number sense to analyze products when a whole number is multiplied by a fraction (Example: $3 \times \frac{1}{2}$) -Multiply a fraction by a fraction using a picture representation -Multiply fractions by fractions using the standard algorithm -Simplify or cross cancel to reduce fractions to simplest form. -Multiply Mixed Numbers -Solve multi-step real world problems involving the multiplication of fractions and mixed numbers using models or equations to represent them 		<p>5.NF.6</p>
<p>Mid-End April Approx. 1 week</p>		<p>Divide whole numbers by a unit fraction & divide a unit fraction by a whole number</p>	<ul style="list-style-type: none"> -Divide a whole number by a unit fraction using picture models and/or story context - Divide unit fractions by whole numbers using picture models and/ or story context -Solve multi-step real world problems involving the division of unit fractions by a whole number and whole number by unit fraction. 		<p>5.NF.7a 5.NF.7b 5.NF.7c</p>

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Math Vocabulary

Unit 4:

*continue to use fraction, multiplication and division vocabulary from previous units

Scaling or resizing

Reciprocal

Words from the model assessment to familiarize students with: represents, n (used as a variable), division expression

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<p style="text-align: center;">Month Weeks Unit</p> <p style="text-align: center;">State timeline April 25-June 17</p>	<p style="text-align: center;">Essential Question</p>	<p style="text-align: center;">Content</p>	<p style="text-align: center;">Skills</p>	<p style="text-align: center;">Assessment</p>	<p style="text-align: center;">Standards</p>
<p>Unit 5.1</p> <p><i>Spiral Review from unit 1 and 3</i> Beginning May</p> <p><i>Spiral Review from unit 4</i> Early-Mid May Approx. 1 week</p> <p>Mid-End May Approx. 1 week</p> <p>End May Approx. 1 week</p>	<p>What makes a strategy for working with numbers efficient and effective?</p> <p>Why is fluency in computing important in life?</p> <p>What are some ways we can organize data?</p> <p>How can we use patterns to show a relationship?</p>	<p>Multiply multi-digit whole numbers</p> <p>Add, subtract, multiply, and divide decimals to hundredths</p> <p>Represent and interpret data using line plots</p> <p>Graph points on a coordinate plane to solve real-</p>	<p><i>-Spiral Review from unit 1 and 3</i> <i>*Teach to MASTERY (many students will have mastered this skill. Review as needed)</i></p> <p><i>Spiral Review from unit 4</i> <i>*Teach to MASTERY</i></p> <p>-Read a line plot -Organize data to make a line plot -Interpret line plots using fractions</p> <p>-Write ordered pairs to identify points on a grid -Find the distance between ordered pairs on a coordinate plane -Use patterns to find missing values in a</p>	<p>STAR Math Assessment</p> <p>Lint It! Assessment</p> <p>Model Curriculum Unit 5 Assessment</p> <p>Teacher Observation Anecdotal Records Class Discussions Student Participation Exit Slips Open-Ended Questions Student-made Tutorials Quizzes Unit Tests Performance Tasks Ten Marks Accelerated Math</p>	<p>5.NBT.5</p> <p>5.NBT.7</p> <p>5.MD.2</p> <p>5.G.1 5.G.2</p>

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<p>Beginning June Approx. 1 week</p>	<p>Why do we analyze data?</p>	<p>world and mathematical problems.</p> <p>Analyze patterns and relationships</p>	<p>data table, and then, graph and interpret the results. -Write an explanation to interpret a graph or graphing data</p> <p>-Find a rule and write an addition or subtracting expression -Find a rule and write a multiplication or division expression -Graph the ordered pairs on a coordinate plane.</p>		<p>5.OA.3</p>
<p>Mid June Approx. 1 week</p>	<p>How can we classify shapes?</p>	<p>Classify two-dimensional figures into categories based on their properties.</p>	<p>-Define polygon and name types: triangle, quadrangle, pentagon, hexagon, and octagon -Classify triangles by the length of their sides/classify triangles by the measure of their angles: Equilateral, Isosceles, Scalene -Identify properties of quadrilaterals: parallelogram, trapezoid, rectangle, rhombus, and square. -Based on a hierarchy of properties, classify quadrilaterals.</p>		<p>5.G.3 5.G.4</p>

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Math Vocabulary

Unit 5:

Pattern Sequence Variable Algebraic expression Line plot Outlier Survey Frequency table Data Sample Polygon: triangle, quadrilateral, pentagon, hexagon, octagon Regular polygon Triangles classified by the <i>length of their sides</i> : equilateral, isosceles, scalene	Triangles classified by the <i>measure of their angles</i> : right, acute, obtuse Quadrilaterals: parallelogram, trapezoid, rectangle, rhombus, square Coordinate grid Ordered pairs Plot plane x- axis y- axis origin (point at which the x and y intersect) y-coordinate x-coordinate corresponding terms (input/ output table)	Words from the model assessment to familiarize students with: standard algorithm, value, coordinate system, plane, origin, units, corresponding terms
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