

2016-2017 Downey Unified School District 5th Grade Math Curriculum Map

** Interim Test (CASSPP) will replace District Growth Math Assessment. It will be taken 2x a year (EOT1 & EOT2)

Time	Unit	Big Ideas	Standards	Resources	Assessments	Routines and Activities
3 weeks	1: Place Value of Whole Numbers and Decimals	<ul style="list-style-type: none"> In this unit students expand their previous understanding of place value to include decimal numbers. Powers of 10 is a fundamental aspect of the base ten system. Students need to know that a digit in one place represents 10 times as much as it represents in the place to the right and 1/10 of what it represents to its left. Read, write and compare decimals to the thousandths. 	5.NBT.1 5.NBT.2 5.NBT.3a 5.NBT.3b 5.NBT.4	<p><u>Expressions</u> Unit 2 Lessons 1, 2 introduces place value, but spirals throughout the series (See index)</p> <p><u>EngageNY - Module 1</u> Use Topic A Lesson 1,2,3 Topic B Lesson 5, 6, Comparing Decimals Lessons in EngageNY (Topic C) are not student friendly</p> <p><u>Georgia - Unit 2</u> (Units have constructing tasks, practice tasks and performance tasks) Tasks: High Roller Revisited, Reasonable Rounding, Making "Cents" of Decimals, and In the Paper (both of these tasks relate decimals to fractions)</p> <p><u>Georgia - Unit 3</u> has tasks that reference exponents by relating it to mult/div</p> <p>Old River Packet (Google Drive)</p> <p><u>Additional Resources</u></p> <p><u>Cooperative Math (Kagan)</u></p> <p>*<u>Number Talks <i>Helping Children Build Mental Math and Computation Strategies</i></u> by Sherry Parrish</p> <p><u>Illustrative Mathematics</u> Tasks: Kipton's Scale Tenths and Hundredths</p>	<ul style="list-style-type: none"> Unit 1 Assessment and Constructed Response - District Created Teacher needs to create formative assessments as needed to guide instruction. Unit 1 Performance Tasks: Decimals, Pg. 75 https://www.scoe.org/files/mars-grade5.pdf 	<p>*<u>Number Talks</u> Read Chapters 1 and 2 to understand Number Talks Read Chapter 5 for Developing Specific Addition and Subtraction Strategies p.182 - 286 have number sets to use for your number talks Chapter 9 (p. 324) What Does a Number Talk Look Like for 5th Grade (Use the <u>Number Talks</u> book throughout the entire year for routine ideas or routines from the district.)</p> <p><u>One of These Things Routine</u> (District Website)</p> <p><u>Choral Counting Routine</u> (District Website)</p> <p><u>Mental Math Ideas</u> (District Website)</p> <p>MARS Performance Task Activity: Decimals</p> <p>More Activities - Illustrative Mathematics</p>

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2 weeks	2: Metric System and Customary Conversions	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.	5.MD.1	<p><u>Expressions</u> Unit 2 - Lesson 4 Unit 8 - Lessons 1, 2, 3, 4, 5, 6, 7</p> <p>*Story of King Henry (on the internet) can be used as mnemonic for teaching metric system.</p> <p>For problems/homework:</p> <ul style="list-style-type: none"> Website: MrMaffesoli.com 	<ul style="list-style-type: none"> Unit 2 Assessment and Constructed Response - District Created Teacher needs to create formative assessments as needed to guide instruction Unit 2 Performance Task: https://www.scoe.org/files/mars-grade5.pdf pg.75 - Fruits and Vegetables 	<p>*<u>Number Talks</u> (Use the <u>Number Talks</u> book throughout the entire year for routine ideas or routines from the district.)</p> <p>MARS Performance Task Activity: Fruits and Vegetables (Customary Unit Conversions)</p> <p>More Activities - Illustrative Mathematics</p>

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2 weeks	3: Addition and Subtraction of Decimals	<ul style="list-style-type: none"> Students can use their understanding of decimal- fraction equivalencies, concrete or visual models and place value to reason about decimal quantities and operations. 	5.NBT.1 5.NBT.7 5.MD.2	<p><u>Expressions</u> Unit 2 - Lessons 1, 2, 3, 4, 5, 6, 8, 10 (Real World Problem Solving Questions)</p> <p><u>Extending Children's Mathematics: Fractions and Decimals</u> by Susan B. Empson and Linda Levi - Chapters 7</p> <p>Lessons do not have concrete models or drawings, needs to be taught. Line Plots also need to be integrated.</p> <p>EngageNY - Module 1 Topic D has sample problems but lessons aren't kid friendly.</p> <p>Georgia - Unit 2 (Units have constructing tasks, practice tasks and performance tasks) Tasks: Hit the Target, Ten is the Winner, It All Adds Up, Rolling Around with Decimals, The Right Cut</p> <p>Old River Packet (Google Drive)</p> <p><u>Additional Resources</u></p> <p><u>Cooperative Math (Kagan)</u></p> <p>*<u>Extending Children's Mathematics Fractions and Decimals</u> by Susan B. Empson and Linda Levi</p> <p>*Illustrative Mathematics Task: The Value of Education</p> <p>For problems/homework: <ul style="list-style-type: none"> Website: MrMaffesoli.com </p>	<ul style="list-style-type: none"> Unit 3 Assessment and Constructed Response - District Created Teacher needs to create formative assessments as needed to guide instruction. Unit 3 Performance Tasks: Value of Education 	<p>*<u>Number Talks</u> (Use the <u>Number Talks</u> book throughout the entire year for routine ideas or routines from the district.)</p> <p>Choral Counting Routine (District Website) * Choral Counting: Decimals</p> <p>*<u>Extending Children's Mathematics: Fractions and Decimals</u> p. 3- 35 Sample Problems on pages 29- 31 Introduce Fair Share Problems to develop/review fraction understanding, start with problems like 6 children want to share 13 cookies (review of 3rd/4th grade ideas)</p> <p>Mental Math Idea (District Website)</p> <p>Problem of the Month Activities <ul style="list-style-type: none"> Diminishing Return Digging Dinosaurs </p> <p>More Activities - Illustrative Mathematics</p>

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4 weeks	4: Division and Multiplication of Fractions	<ul style="list-style-type: none"> In this unit, students extend their understanding of multiplying a fraction by a whole number to multiplying fractions by fractions. In previous grades, students have developed understanding of fractions as numbers. In this grade level, students develop an understanding of the connection between fractions and division. They will use this understanding to explore the relationship of multiplication and division when multiplying fractions as explained in 5.NF.4a 	5.NF.3 5.NF.4 5.NF.5 5.NF.6 5.NF.7 5.OA.2 5.MD.1 5.MD.2	<p><u>Expressions</u> Unit 3 - Lessons 1, 2, 3, 4, 6, 7, 8, 10</p> <p><u>Extending Children's Mathematics: Fractions and Decimals</u> by Susan B. Empson and Linda Levi - Chapters 1-3</p> <p><u>EngageNY - Module 4</u> Topic F Scaling of mult/div of fractions/decimals Additional clusters addressed: Topic A Line Plots Topic H Interpretation of numerical expressions</p> <p><u>Georgia - Unit 4</u> (Units have constructing tasks, practice tasks and performance tasks) Tasks: Comparing MP3s Measuring for a Pillow Where are the cookies? Dividing with Unit Fractions Adjusting a Recipe</p> <p><u>Santa Ana - Multiplication and Division of Fractions Unit</u></p> <p>Old River Packet (Google Drive)</p> <p><u>Additional Resources</u></p> <p><u>Cooperative Math (Kagan)</u></p> <p><u>*Illustrative Mathematics</u> Task: There are several options to choose from by standard Painting a Wall (multiplying fractions) Running a Mile (scaling)</p> <p><u>Project Based Learning:</u> <u>How Tall is Mini Me (Scale and Dividing Decimals)</u></p>	<ul style="list-style-type: none"> Unit 4 Assessment and Constructed Response - District Created Teacher needs to create formative assessments as needed to guide instruction. Unit 4 Performance Tasks: None Community Garden (SBAC released test questions) 	<p><u>*Number Talks</u> (Use the <u>Number Talks</u> book throughout the entire year for routine ideas or <u>routines from the district</u>.)</p> <p><u>Mini lessons for Operations with Fractions, Decimals, and Percents</u> - Part 2 pgs. 59-84</p> <p><u>Choral Counting Routine</u> (District Website)</p> <p><u>Mental Math Idea</u> (District Website)</p> <p><u>Fraction Number Talk Ideas</u> (District Website)</p> <p>Performance Task Ideas</p> <ul style="list-style-type: none"> <u>Time for Recess</u> <p>More Activities - <u>Illustrative Mathematics</u></p>

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5 weeks	5: Addition and Subtraction of Fractions	<ul style="list-style-type: none"> In this unit students will use what they have learned about equivalency to extend understanding of adding and subtracting fractions, including mixed numbers. Students should be encouraged to use conceptual understanding of fractions rather than just the algorithm. No mathematical reason for students to write fractions in simplest form. 	5.NF.1 5.NF.2 5.NF.3 5.OA.1 5.MD.2	<p><u>Expressions</u> Unit 1 - all</p> <p>EngageNY - Module 3 Topic B: Lessons 3, 4, 5, 8, 9, & 11</p> <p>Georgia - Unit 4 Tasks: Arrays, Number Puzzles and Factor Trees (Factors and Multiples), Sharing Candy Bars, Wishing Club (references the book <u>The Wishing Club</u> but it is not needed) Addition and Subtraction, Flip it Over, Up and Down the Number Line, Create Three</p> <p>Old River Packet (Google Drive)</p> <p>Additional Resources Cooperative Math (Kagan)</p> <p>Mini lessons for Operations with Fractions, Decimals, and Percents by Kara L Imm, Catherine T. Fosnot, Willem Uittenbogaard</p> <p>Extending Children's Mathematics: Fractions and Decimals Susan B. Empson, Linda Levi -To build equivalence understanding when adding/subtracting decimals refer to Chapter 6 and sample problems can be found on p. 139-142 and p. 144-147 -Additional Addition and Subtraction Problems p. 209-211 (P. 218-219 provide instructional guidelines for an introduction to fraction computation)</p> <p>* Illustrative Mathematics Tasks: Making S'mores Salad Dressing (There are several options to choose from here.)</p> <p>For problems/homework:</p> <ul style="list-style-type: none"> Website: MrMaffesoli.com 	<ul style="list-style-type: none"> Unit 5 Assessment and Constructed Response - District Created Teacher needs to create formative assessments as needed to guide instruction. Unit 5 Performance Tasks: None https://www.sc.oe.org/files/mars-grade5.pdf pg.60 - Fractions 	<p>*Number Talks (Use the Number Talks book throughout the entire year for routine ideas or routines from the district.)</p> <p>Mini lessons for Operations with Fractions, Decimals, and Percents - Part 1 pgs. 13-57</p> <p>Extending Children's Mathematics: Fractions and Decimals -Continue with Fair Share Problems and relate it to a adding of fractions</p> <p>Fraction Number Talk Ideas (District Website)</p> <p>One of These Things (District Website)</p> <p>Choral Counting Routine (District Website)</p> <p>MARS Performance Task Activities:</p> <ul style="list-style-type: none"> Fractions Cindy's Cats <p>Performance Task Ideas</p> <ul style="list-style-type: none"> Stuffed with Pizza <p>Problem of the Month Activity</p> <ul style="list-style-type: none"> Got Your Number (Adding & Subtracting Fractions) Fractured Numbers <p>More Activities - Illustrative Mathematics</p>

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3 weeks	6: Multiplication and Division of Whole Numbers and Interpreting Numerical Expressions	<p>In this unit students build on their work from previous grade levels to refine their strategies for multiplication and division in order to reach fluency in multiplication by the end of the year. Previously, Students have applied patterns of the base ten system to mental strategies and studied sequential lessons of multiplication via area diagrams and the distributive property leading to fluency with the standard algorithm. Students begin to find quotients with two-digit divisors early in the year to build strategies for accurate computation. Using standard algorithm for division is a grade 6 standard.</p> <ul style="list-style-type: none"> Students will write and interpret the numerical expressions as a way to record their calculations. 	5.NBT.1 5.NBT.2 5.NBT.5 5.NBT.6 5.OA.1 5.OA.2 5.OA.3	<p><u>Expression</u> **DO NOT teach multiplication and division algorithm, but use problems applying partial quotient/products & expanded notation.</p> <p>Unit 7 Lessons 1, 2, 4 (Expressions)</p> <p>Multiplication - Unit 4 - Lessons 1, 2, 3, 4, 5 use Real World Problems</p> <p>Division - Unit 5 - Lessons 1, 2, 4, 5</p> <p>EngageNY - Module 2 Topic B Lesson 3 addresses writing and interpreting numerical expressions Topic C does not apply EngageNY - Module 2 (Expressions) Topic B Lesson 3 addresses writing and interpreting numerical expressions Topic C does not apply Georgia -Unit 1 (Units have constructing tasks, practice tasks and performance tasks) Tasks: Multiplication Three in a Row Preparing a Prescription, Division and Interpreting Remainders, The Grass is Always Greener, Division Four in a Row, Start of the Year Celebration Additional Tasks can be used with a additional cluster 5.OA.1</p> <p>Additional Resources Cooperative Math (Kagan)</p> <p>*Illustrative Mathematics Task: The Value of Education</p> <p>For problems/homework: <ul style="list-style-type: none"> Website: MrMaffesoli.com </p>	<ul style="list-style-type: none"> Unit 6 Assessment and Constructed Response - District Created Teacher needs to create formative assessments as needed to guide instruction. Unit 6 Performance Tasks: Elmer's Multiplication Error https://www.sc.oe.org/files/mars-grade5.pdf pg.23 - Hexagons in a Row 	<p>*Number Talks (Use the Number Talks book throughout the entire year for routine ideas or routines from the district.)</p> <p>Number Talks (Ch 7-8) pgs. 231- 299</p> <p>Mental Math Idea (District Website)</p> <p>Choral Counting Routine (District Website)</p> <p>A Sample of CGI Word Problems (District Website)</p> <p>Problem of the Month Activity - Squirreling It Away</p> <p>More Activities - Illustrative Mathematics</p>

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5 weeks	7: Multiplication and Division of Decimals	<ul style="list-style-type: none"> Measurement is used in this unit as a context for operations with decimals. Students can use their understanding of decimal-fraction equivalencies, concrete or visual models, and place value to reason about decimal quantities and operations. Students express measurements in larger or smaller units within a measurement system. This is an excellent opportunity to reinforce notions of place value for whole numbers and decimals, and connection between fractions and decimals (e.g., $2\frac{1}{2}$ meters can be expressed as 2.5 meters or 250 centimeters). 	5.NBT.1 5.NBT.2 5.NBT.7 5.MD.1	<p><u>Expressions</u> Multiplication - Unit 4 - Lessons 1, 6, 7, 8, 9, 10, 11, 12 Division - Unit 5 - Lessons 6, 7, 8, 9, 10, 11 (if using these lessons, choose the problems with friendly numbers) *Do not teach the division algorithm</p> <p>EngageNY - Module 1 and 4 Topic E and F</p> <p>Georgia - Unit 3 (Units have constructing tasks, practice tasks and performance tasks) All the tasks apply (the first 3 tasks reinforce the powers of ten concept developed in Unit 1)</p> <p><u>Additional Resources</u> Old River Packet Cooperative Math (Kagan)</p> <p>*Illustrative Mathematics</p> <p>*Extending Children's Mathematics: Fractions and Decimals Chpt. 7 p. 148-177 Sample Problems: p. 171-173 Guideline for teaching concepts: p. 176-177</p>	<ul style="list-style-type: none"> Unit 7 Assessment - District Created (There is no constructed response question on this assessment.) Teacher needs to create formative assessments as needed to guide instruction. Unit 7 Performance Tasks: Unit 7:PT (Cars) http://fcit.usf.edu/math/resource/perftsk2/multdec.html Multiplying and Dividing Decimals 	<p>*Number Talks (Use the Number Talks book throughout the entire year for routine ideas or routines from the district.)</p> <p>Mini lessons for Operations with Fractions, Decimals, and Percents pgs. 82-85</p> <p>Choral Counting Routine (District website)</p> <p>Mental Math Idea (District website)</p> <p>More Activities - Illustrative Mathematics</p>

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3 weeks	8: Volume	<ul style="list-style-type: none"> In this unit, students develop this understanding using concrete models to discover strategies for finding volume. Students will generalize this understanding in real-world problems and apply strategies and formulas. 	5.MD.1 5.MD.2 5.MD.3 5.MD.4 5.MD.5 5.NBT.5 5.NBT.6 5.NBT.7	<p>EngageNY - Module 5 Unit 8</p> <ul style="list-style-type: none"> - Topic B Lesson 6- volume of non-overlapping rectangular prisms - All topics apply except Topic C (Area) <p><u>Expressions</u> Unit 8 Lessons 9-13</p> <p>Georgia - Unit 7 (Units have constructing tasks, practice tasks and performance tasks)</p> <ul style="list-style-type: none"> - All Tasks except a Survival Badge and A Little Mo Running <p>Santa Ana - Volume Unit</p> <p><u>Additional Resources</u></p> <p><u>Cooperative Math (Kagan)</u></p> <p>*Illustrative Mathematics</p> <ul style="list-style-type: none"> - Tasks: Box of Clay Cari's Aquarium 	<ul style="list-style-type: none"> Unit 8 Assessment and Constructed Response - District Created Teacher needs to create formative assessments as needed to guide instruction. Unit 8 Performance Tasks: How Many Cubes? https://www.scoe.org/files/mars-grade5.pdf pg.16 - How Many Cubes? 	<p>*Number Talks (Use the Number Talks book throughout the entire year for routine ideas or routines from the district.)</p> <p>MARS Performance Task Activity:</p> <ul style="list-style-type: none"> How Many Cubes? <p>More Activities</p> <ul style="list-style-type: none"> - Illustrative Mathematics

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2 weeks	9: Graphing on the Coordinate Plane	<ul style="list-style-type: none"> In this unit, students are introduced to the coordinate plane, applying their knowledge of the number line to understand the relationship of the two dimensions of a point in the coordinate plane. Students connect their work with numerical patterns to form ordered pairs and graph these ordered pairs in the first quadrant of a coordinate plane. Students use this model to make sense of and explain the relationships within the numerical patterns they generate. This prepares students for future work with functions and proportional relationships in the middle grades. 	5.G.1 5.G.2 5.MD.2	<p><u>Expressions</u> Unit 7 Lessons 5, 6, 7 (Intro. Coordinate Plane)</p> <p>EngageNY - Module 6</p> <p>Georgia - Unit 5</p> <p>Additional Resources</p> <p><u>Cooperative Math (Kagan)</u></p> <p>*<u>Illustrative Mathematics</u> - Tasks: Battle Ship Using Grid Paper Meerkat Coordinate Plane Task</p>	<ul style="list-style-type: none"> Unit 9 Assessment - District Created (There is no constructed response question on this assessment.) Teacher needs to create formative assessments as needed to guide instruction. Unit 9 Performance Tasks: Science Fair Project https://www.science.org/files/mars-grade5.pdf pg.44 - Granny's Balloon Trip 	<p>*<u>Number Talks</u> (Use the <u>Number Talks</u> book throughout the entire year for routine ideas or routines from the district.)</p> <p>MARS Performance Task Activities</p> <ul style="list-style-type: none"> Hexagon's in a Row Granny's Balloon Trip <p>Problem of the Month Activities -</p> <ul style="list-style-type: none"> Tri-Triangles Growing Staircases <p>More Activities - Illustrative Mathematics</p>

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2 weeks	10: Two-Dimensional Shapes	<ul style="list-style-type: none"> In this unit the emphasis is on the hierarchical relationship among 2 dimensional geometric figures. Students have had previous experience classifying shapes using defining attributes, and this unit extends this concept to set a foundation for understanding the propagation of properties. 	5.G.3 5.G.4	<p><u>Expressions</u> Unit 8 - Lessons 14, 15, 16</p> <p>EngageNY - Module 5 - Only Topic D</p> <p>Georgia - Unit 6 (Units have constructing tasks, practice tasks and performance tasks)</p> <p>Additional Resources</p> <p>Cooperative Math (Kagan)</p>	<ul style="list-style-type: none"> Unit 10 Assessment and Constructed Response - District Created Teacher needs to create formative assessments as needed to guide instruction. Unit 10 Performance Tasks: Logics of Shapes https://www.science.org/files/mars-grade6.pdf pg. 25 - Sorting Shapes 	<p>*<u>Number Talks</u> (Use the <u>Number Talks</u> book throughout the entire year for routine ideas or routines from the district.)</p> <p>MARS Performance Task Activity: Sorting Shapes</p> <p>More Activities - Illustrative Mathematics</p>