Mathletics
Georgia Mathematics Standards
Activities

Grades 3-6

September 2023

Mathletics

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Grade 3

Numerical Reasoning

Course Topic	Activities Title
REVIEW 3.NR.1 - Place Value	Place Value 2
	Partition and Rename 1
	Place Value Partitioning
	Model Numbers
	Which is Bigger?
	Which is Smaller?
	Greater or Less to 100

Use place value reasoning to represent, read, write, and compare numerical values up to 10,000 and round whole numbers up to 1,000.

3.NR.1.1 Read and write multi-digit whole numbers up to 10,000 to the thousands using base-ten numerals and expanded form	
Course Topic	**Activities Title**
3.NR.1 - Place Value	Place Value to Thousands
	Place Value 3
	Partition and Rename 2
	Expanding Numbers

3.NR.1.2 Use place value reasoning to compare multi-digit numbers up to 10,000, using >, =, and < symbols to record the results of comparisons.	
Course Topic	**Activities Title**
3.NR.1 - Place Value	Which Is Greater?
	Which Is Less?
	Smallest and largest numbers
	Ascending Order
	Descending Order
	Greater Than or Less Than 1

3.NR.1.3 Use place value understanding to round whole numbers within up to 1000 to the nearest 10 or 100.	
Course Topic	**Activities Title**
3.NR.1 - Place Value	Nearest Ten?
	Rounding Numbers

Patterning and Algebraic Reasoning

Course Topic	Activities Title
REVIEW 3.PAR.2 - Add & Subtract	Adding to 2-digit numbers
	Mental Addition (US)
	Mental Subtraction (US)
	Subtract Tens
	Bar Model Problems 1
	Bar Model Problems 2
	Repartition to Subtract/Decompose numbers to subtract
	Add 3 Numbers: Bonds to Multiples of 10
	Add 3 Numbers: Bonds to 100
	10 More, 10 Less

Course Topic	Activities Title
REVIEW 3.PAR.3 - Multiplication & Division	Model multiplication to 5 × 5
	Groups

Use part-whole strategies to represent and solve real-life problems involving addition and subtraction with whole numbers up to 10,000.

3.PAR.2.1 Fluently add and subtract within 1000 to solve problems.	
Course Topic	**Activities Title**
3.PAR.2 - Add & Subtract	Jump Add and Subtract
	Split Add and Subtract
	Compensation - Add
	Compensation - Subtract

3.PAR.2.2 Apply part-whole strategies, properties of operations and place value understanding, to solve problems involving addition and subtraction within 10,000. Represent these problems using equations with a letter standing for the unknown quantity. Justify solutions.	
Course Topic	**Activities Title**
3.PAR.2 - Add & Subtract	Addition Properties
	Columns that Add
	Add Two 2-Digit Numbers
	Add 3-Digit Numbers
	Strategies for Column Addition
	Add Two 2-Digit Numbers: Regroup
	Add 3-Digit Numbers: Regroup
	Columns that Subtract

	Subtract Numbers
	3-Digit Differences
	Subtract Numbers: Regroup
	2-Digit Differences: Regroup
	3-Digit Differences: 1 Regrouping
	3-Digit Differences: 2 Regroupings
	Estimate Sums
	Estimate Differences

Use part-whole strategies to solve real-life, mathematical problems involving multiplication and division with whole numbers within 100.

3.PAR.3.1	
Describe, extend, and create numeric patterns related to multiplication. Make predictions related to the patterns.	
Course Topic	**Activities Title**
3.PAR.3 - Multiplication & Division	Groups of Two
	Groups of Three
	Groups of Four
	Groups of Five
	Groups of Six
	Groups of Seven
	Groups of Eight
	Groups of Nine
	Groups of Ten
	Divide Into Equal Groups
	Dividing Twos
	Dividing Threes
	Dividing Fours
	Dividing Fives
	Dividing Sixes
	Dividing Sevens
	Dividing Eights
	Dividing Nines
	Dividing Tens

3.PAR.3.2	
Represent single digit multiplication and division facts using a variety of strategies. Explain the relationship between multiplication and division.	
Course Topic	**Activities Title**
3.PAR.3 - Multiplication & Division	Groups of Two
	Groups of Three
	Groups of Four
	Groups of Five
	Groups of Six
	Groups of Seven

	Groups of Eight
	Groups of Nine
	Groups of Ten
	Divide Into Equal Groups
	Dividing Twos
	Dividing Threes
	Dividing Fours
	Dividing Fives
	Dividing Sixes
	Dividing Sevens
	Dividing Eights
	Dividing Nines
	Dividing Tens
3.PAR.3: Multiplication & Division problems	Frog Jump Multiplication
	Frog Jump Division
	Share the Treasure
	Fill the Jars

3.PAR.3.3
Apply properties of operations (i.e., commutative property, associative property, distributive property) to multiply and divide within 100.

Course Topic	Activities Title
3.PAR.3 - Multiplication & Division	Multiplication Turn-Abouts
	Related Facts 2
	Fact Families: Multiply and Divide

3.PAR.3.4
Use the meaning of the equal sign to determine whether expressions involving addition, subtraction, and multiplication are equivalent

Course Topic	Activities Title
3.PAR.3 - Multiplication & Division	Groups of Two
	Groups of Three
	Groups of Four
	Groups of Five
	Groups of Six
	Groups of Seven
	Groups of Eight
	Groups of Nine

3.PAR.3.5
Use place value reasoning and properties of operations to multiply one-digit whole numbers by multiples of 10, in the range 10-90.

Course Topic	Activities Title
3.PAR.3 - Multiplication & Division	Groups of Ten
	Dividing Tens

3.PAR.3.6
Solve practical, relevant problems involving multiplication and division within 100 using part-whole strategies, visual representations, and/or concrete models.

Course Topic	Activities Title
3.PAR.3 - Multiplication & Division	Divide Into Equal Groups
	Dividing Twos
	Dividing Threes
	Dividing Fours
	Dividing Fives
	Dividing Sixes
	Dividing Sevens
	Dividing Eights
	Dividing Nines
3.PAR.3 - Multiplication & Division problems	Arrays 1
	Arrays 2

3.PAR.3.7
Use multiplication and division to solve problems involving whole numbers to 100. Represent these problems using equations with a letter standing for the unknown quantity. Justify solutions.

Course Topic	Activities Title
3.PAR.3 - Multiplication & Division problems	Multiplication Problems 1
	Problems: Times and Divide
	Missing Numbers: × and ÷ facts
	Making Picture Graphs: With Scale
	Column Graphs
	Picture Graphs: with scale & half symbols

Numerical Reasoning

Course Topic	Activities Title
3.NR.4 - Fractions	Halves
	Is it Half?
	Halves and Quarters

Represent fractions with denominators of 2, 3, 4, 6 and 8 in multiple ways within a framework using visual models.

3.NR.4.1	
Describe a unit fraction and explain how multiple copies of a unit fraction form a non-unit fraction. Use parts of a whole, parts of a set, points on a number line, distances on a number line and area models.	
Course Topic	**Activities Title**
3.NR.4 - Fractions	Thirds and Sixths
	Shade fractions

3.NR.4.2	
Compare two unit fractions by flexibly using a variety of tools and strategies	
Course Topic	**Activities Title**
3.NR.4 - Fractions	Identifying Fractions on a Number Line
	Comparing Fractions 1
	Compare Fractions 1a

3.NR.4.3	
Represent fractions, including fractions greater than one, in multiple ways	
Course Topic	**Activities Title**
3.NR.4 - Fractions	Model Fractions
	What Fraction is Shaded?

3.NR.4.4	
Recognize and generate simple equivalent fractions.	
Course Topic	**Activities Title**
3.NR.4 - Fractions	Equivalent Fraction Wall 1

Measurement & Data Reasoning

Course Topic	**Activities Title**
REVIEW 3.MDR.5 - Measurement	Hour Times
	Half Hour Times
	Quarter To and Quarter Past
	How Long Is That (Customary)?

Solve real-life, mathematical problems involving length, liquid volume, mass, and time and analyze graphical displays of data to answer relevant questions.

3.MDR.5.1	
Ask questions and answer them based on gathered information, observations, and appropriate graphical displays to solve problems relevant to everyday life.	
Course Topic	**Activities Title**
3.MDR.5 - Measurement	Bar Graphs 1
	Bar Graphs 2

3.MDR.5.2	
Tell and write time to the nearest minute and estimate time to the nearest fifteen minutes (quarter hour) from the analysis of an analog clock.	
Course Topic	**Activities Title**
3.MDR.5 - Measurement	Five Minute Times
	What is the Time?

3.MDR.5.3	
Solve meaningful problems involving elapsed time, including intervals of time to the hour, half hour, and quarter hour where the times presented are only on the hour, half hour, or quarter hour within a.m. or p.m. only.	
Course Topic	**Activities Title**
3.MDR.5 - Measurement	Time Mentals
	Elapsed Time

3.MDR.5.4	
Use rulers to measure lengths in halves and fourths (quarters) of an inch and a whole inch.	
Course Topic	**Activities Title**
3.MDR.5 - Measurement	Measure to the Nearest Half Inch

3.MDR.5.5	
Estimate and measure liquid volumes, lengths and masses of objects using customary units. Solve problems involving mass, length, and volume given in the same unit, and reason about the relative sizes of measurement units within the customary system.	
Course Topic	**Activities Title**
3.MDR.5 - Measurement	How Full?
	How Heavy?
	How Heavy is it?

Geometric & Spatial Reasoning

Course Topic	Activities Title
REVIEW 3.GSR.6 - Shape	Collect Simple Shapes
	Symmetry
	Collect the Shapes
	Match the Solid 1

Identify the attributes of polygons, including parallel segments, perpendicular segments, right angles, and symmetry.

3.GSR.6.1	
Identify perpendicular line segments, parallel line segments, and right angles, identify these in polygons, and solve problems involving parallel line segments, perpendicular line segments, and right angles.	
Course Topic	Activities Title
3.GSR.6 - Shape	Shapes
	Collect the Shapes 1
	Collect the Shapes 2
	Collect the Polygons
	Count Sides and Corners
	What pair of lines am I?

3.GSR.6.2	
Classify, compare, and contrast polygons, with a focus on quadrilaterals, based on properties. Analyze specific 3-dimensional figures to identify and describe quadrilaterals as faces of these figures.	
Course Topic	Activities Title
3.GSR.6 - Shape	Equal Angles
	Comparing Angles
	Right Angle Relation
	What Type of Angle 2?
	Relate Shapes and Solids
	What Prism am I?

3.GSR.6.3	
Identify lines of symmetry in polygons.	
Course Topic	Activities Title
3.GSR.6 - Shape	Symmetry or Not?

Course Topic	Activities Title
REVIEW 3.GSR.7 / 3.GSR.8 - Area & Perimeter	Biggest Shape/Bigger or smaller shape

Identify area as a measurable attribute of rectangles and determine the area of a rectangle presented in real-life, mathematical problems.

3.GSR.7.1	
Investigate area by covering the space of rectangles presented in realistic situations using multiple copies of the same unit, with no gaps or overlaps, and determine the total area (total number of units that covered the space).	
Course Topic	**Activities Title**
3.GSR.7 / 3.GSR.8 - Area & Perimeter	Equal Areas

3.GSR.7.2	
Determine the area of rectangles (or shapes composed of rectangles) presented in relevant problems by tiling and counting.	
Course Topic	**Activities Title**
3.GSR.7 / 3.GSR.8 - Area & Perimeter	Equal Areas

3.GSR.7.3	
Discover and explain how area can be found by multiplying the dimensions of a rectangle	
Course Topic	**Activities Title**
3.GSR.7 / 3.GSR.8 - Area & Perimeter	Calculate Area of Shapes (inches, feet, yards)
	Area of Squares and Rectangles
	Calculate Areas of Squares and Rectangles

Determine the perimeter of a polygon presented in real-life, mathematical problems

3.GSR.8.1	
Determine the perimeter of a polygon and explain that the perimeter represents the distance around a polygon. Solve problems involving perimeters of polygons.	
Course Topic	**Activities Title**
3.GSR.7 / 3.GSR.8 - Area & Perimeter	Perimeter
	Perimeter Detectives 1

Grade 4

Numerical Reasoning

Course Topic	Activities Title
REVIEW 4.NR.1 - Number	Place Value to Thousands
	Partition and Rename 2
	Rounding Numbers

Recognize patterns within the base ten place value system with quantities presented in real-life situations to compare and round multi-digit whole numbers through the hundred-thousands place and compare decimal numbers to the hundredths place.

4.NR.1.1	
Read and write multi-digit whole numbers to the hundred-thousands place using base-ten numerals and expanded form.	
Course Topic	Activities Title
4.NR.1 - Number	Numbers in Words
	Numbers from Words to Digits 1
	Expanded Notation

4.NR.1.2	
Recognize and show that a digit in one place has a value ten times greater than what it represents in the place to its right and extend this understanding to determine the value of a digit when it is shifted to the left or right, based on the relationship between multiplication and division.	
Course Topic	Activities Title
4.NR.1 - Number	Partition and Rename 2/Understanding Place Value 2 (CAN)
	Partition and Rename 3/Understanding Place Value 3 (CAN)
	Place Value 2
	Place Value 3

4.NR.1.3	
Use place value reasoning to represent, compare, and order multi-digit numbers, using >, =, and < symbols to record the results of comparisons	
Course Topic	Activities Title
4.NR.1 - Number	Greater Than or Less Than?

4.NR.1.4		
Use place value understanding to round multi-digit whole numbers.		
Course Topic	**Activities Title**	
4.NR.1 - Number	Rounding Numbers 1	
	Nearest Hundred?	
	Nearest Thousand?	

Course Topic	**Activities Title**
REVIEW 4.NR.2 - Addition & Subtraction	Columns that Add
	Add Two 2-Digit Numbers
	Add 3-Digit Numbers
	Strategies for Column Addition
	Add Two 2-Digit Numbers: Regroup
	Add 3-Digit Numbers: Regroup
	Columns that Subtract
	Subtract Numbers
	3-Digit Differences
	Strategies for Column Addition

Using part-whole strategies, solve problems involving addition and subtraction through the hundred-thousands place, as well as multiplication and division of multi-digit whole numbers presented in real-life, mathematical situations

4.NR.2.1	
Fluently add and subtract multi-digit numbers to solve practical, mathematical problems using place value understanding, properties of operations, and relationships between operations.	
Course Topic	**Activities Title**
4.NR.2 - Addition & Subtraction	Adding Colossal Columns
	Add Multi-Digit Numbers 2
	Add Multi-Digit Numbers 1
	Add Three 3-Digit Numbers: Regroup
	Subtracting Colossal Columns
	3-Digit Differences with Zeros
	Estimation: Add and Subtract

4.NR.2.5	
Solve multi-step problems using addition, subtraction, multiplication, and division involving whole numbers. Use mental computation and estimation strategies to justify the reasonableness of solutions	
Course Topic	**Activities Title**
4.NR.2 - Addition & Subtraction	Partition Puzzles 1
	Partition Puzzles 2

Course Topic	Activities Title
REVIEW 4.NR.2 - Multiplication & Division	Groups of Two
	Groups of Three
	Groups of Four
	Groups of Five
	Groups of Six
	Groups of Seven
	Groups of Eight
	Groups of Nine
	Groups of Ten
	Divide Into Equal Groups
	Dividing Twos
	Dividing Threes
	Dividing Fours
	Dividing Fives
	Dividing Sixes
	Dividing Sevens
	Dividing Eights
	Dividing Nines
	Dividing Tens

Using part-whole strategies, solve problems involving addition and subtraction through the hundred-thousands place, as well as multiplication and division of multi-digit whole numbers presented in real-life, mathematical situations

4.NR.2.2
Interpret, model, and solve problems involving multiplicative comparison.

Course Topic	Activities Title
Teacher directed	Teacher directed

4.NR.2.3
Solve relevant problems involving multiplication of a number with up to four digits by a 1-digit whole number or involving multiplication of two two-digit numbers using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Course Topic	Activities Title
4.NR.2 - Multiplication & Division	Multiply Multiples of 10
	Multiplying Whole Numbers by 10, 100, and 1000
	Estimation: Multiply and Divide
	Multiply: 2-Digit by 1-Digit
	Multiply: 1-Digit Number, Regroup
	Mental Methods Multiplication 1
	Mental Methods Multiplication 2
	Mental Methods Multiplication 3

| Double and Halve to Multiply |
| Grid Methods 1 |
| Grid Methods 2 |
| Dividing Whole Numbers by 10, 100, 1000 |

4.NR.2.4

Solve authentic division problems involving up to 4-digit dividends and 1- digit divisors (including whole number quotients with remainders) using strategies based on place-value understanding, properties of operations, and the relationships between operations.

Course Topic	Activities Title
4.NR.2 - Multiplication & Division	Division Facts to Twelve
	Remainders by Arrays
	Mental Methods Division 1
	Mental Methods Division 2
	Mental Methods Division 3

4.NR.2.5

Solve multi-step problems using addition, subtraction, multiplication, and division involving whole numbers. Use mental computation and estimation strategies to justify the reasonableness of solutions

Course Topic	Activities Title
4.NR.2 - Multiplication & Division	Multiply and Divide Problems 1
	Bar model × ÷
	Rounding Numbers for Division/Compatible Numbers

Patterning & Algebraic Reasoning

Course Topic	Activities Title
REVIEW 4.PAR.3 - Algebra	Increasing Patterns
	Patterns - Decreasing
	Describing Patterns
	Count by Tens

Generate and analyze patterns, including those involving shapes, input/output diagrams, factors, multiples, prime numbers, and composite numbers.

4.PAR.3.1

Generate both number and shape patterns that follow a provided rule.

Course Topic	Activities Title
4.PAR.3 - Algebra	Count Forward Patterns
	Count Backward Patterns

	Count by Twos
	Count by Fives
	Skip Counting
	Counting on a 100 grid

4.PAR.3.2

Use input-output rules, tables, and charts to represent and describe patterns, find relationships, and solve problems.

Course Topic	Activities Title
4.PAR.3 - Algebra	Pattern Rules and Tables

4.PAR.3.3

Find factor pairs in the range 1–100 and find multiples of single-digit numbers up to 100.

Course Topic	Activities Title
4.PAR.3 - Algebra	Factors

4.PAR.3.4

Identify composite numbers and prime numbers and explain the relationship with the factor pairs.

Course Topic	Activities Title
4.PAR.3 - Algebra	Prime or Composite Numbers

Numerical Reasoning

Course Topic	Activities Title
REVIEW 4.NR.4 - Fractions	Shade fractions
	Model Fractions
	What Fraction is Shaded?
	Identifying Fractions on a Number Line
	Comparing Fractions 1
	Compare Fractions 1a
	Equivalent Fraction Wall 1

Solve real-life problems involving addition, subtraction, equivalence, and comparison of fractions with denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100 using part-whole strategies and visual models.

4.NR.4.1
Using concrete materials, drawings, and number lines, demonstrate and explain the relationship between equivalent fractions, including fractions greater than one, and explain the identity property of multiplication as it relates to equivalent fractions. Generate equivalent fractions using these relationships.

Course Topic	Activities Title
4.NR.4 - Fractions	Shading Equivalent Fractions
	Selecting Equivalent Fractions
	Equivalent Fractions on a Number Line 2
	Equivalent Fractions on a Number Line 1
	The Equivalent Fraction
	Equivalent Fraction Wall 2
	Identifying Fractions Beyond 1
	Mixed and Improper Fractions on a Number Line
	Mixed to Improper Fractions
	Improper Fraction to Mixed Numeral

4.NR.4.2
Compare two fractions with the same numerator or the same denominator by reasoning about their size and recognize that comparisons are valid only when the two fractions refer to the same whole.

Course Topic	Activities Title
4.NR.4 - Fractions	Compare Fractions 1a
	Compare Fractions 1b
	Comparing Fractions 1
	Comparing Fractions 2
	Compare Fractions 2

4.NR.4.3
Compare two fractions with different numerators and/or different denominators by flexibly using a variety of tools and strategies and recognize that comparisons are valid only when the two fractions refer to the same whole.

Course Topic	Activities Title
4.NR.4 - Fractions	Compare Fractions 1b
	Comparing Fractions 1
	Comparing Fractions 2
	Compare Fractions 2
	Fractions of a Collection

4.NR.4.4
Represent whole numbers and fractions as the sum of unit fractions.

Course Topic	Activities Title
4.NR.4 - Fractions	Identifying Fractions Beyond 1
	Mixed and Improper Fractions on a Number Line
	Mixed to Improper Fractions
	Improper Fraction to Mixed Numeral
	What Fraction is Shaded?
	What fraction is Shaded 1

4.NR.4.5
Represent a fraction as a sum of fractions with the same denominator in more than one way, recording with an equation.

Course Topic	Activities Title
4.NR.4 - Fractions	Add Like Fractions
	Add Subtract Fractions 1

4.NR.4.6
Add and subtract fractions and mixed numbers with like denominators using a variety of tools. Tools include fraction concrete materials, such as Cuisenaire rods, drawings, and number lines

Course Topic	Activities Title
4.NR.4 - Fractions	Subtract Like Fractions
	Add Subtract Fractions 1
	Subtract Like Mixed Numbers

Course Topic	Activities Title
REVIEW 4.NR.5 -Fractions & Decimals	Halves and Quarters
	Thirds and Sixths
	Shade fractions
	Model Fractions
	What Fraction is Shaded?

Solve real-life problems involving addition, equivalence, comparison of fractions with denominators of 10 and 100, and comparison of decimal numbers as tenths and hundredths using part-whole strategies and visual models.

4.NR.5.1	
Demonstrate and explain the concept of equivalent fractions with denominators of 10 and 100, using concrete materials and visual models. Add two fractions with denominators of 10 and 100.	
Course Topic	**Activities Title**
Teacher directed	Teacher directed

4.NR.5.2	
Represent, read, and write fractions with denominators of 10 or 100 using decimal notation, and decimal numbers to the hundredths place as fractions, using concrete materials and drawings.	
Course Topic	**Activities Title**
4.NR.5 - Fractions & Decimals	Convert Decimals to Fractions 2
	Decimals from Words to Digits 1
	Decimals on the Number Line
	Decimal Place Value

4.NR.5.3	
Compare two decimal numbers to the hundredths place by reasoning about their size. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions.	
Course Topic	**Activities Title**
4.NR.5 - Fractions & Decimals	Comparing Decimals 1
	Decimal Order 1

Measurement & Data Reasoning

Course Topic	**Activities Title**
REVIEW 4.MDR.6 - Measure	Time Mentals
	Measure to the Nearest Half Inch
	How Full?

Measure time and objects that exist in the world to solve real-life, mathematical problems and analyze graphical displays of data to answer relevant questions.

4.MDR.6.1	
Use the four operations to solve problems involving elapsed time to the nearest minute, intervals of time, metric measurements of liquid volumes, lengths, distances, and masses of objects, including problems involving fractions with like denominators, and also problems that require expressing measurements given in a larger unit in terms of a smaller unit, and expressing a smaller unit in terms of a larger unit based on the idea of equivalence.	
Course Topic	**Activities Title**
4.MDR.6 - Measure	Time Conversions: Whole Numbers 1
	Time Conversions: Whole Numbers 2
	Time Conversions: Simple Fractions
	What Time Will it Be?
	Ordering Volumes (l)

4.MDR.6.2	
Ask questions and answer them based on gathered information, observations, and appropriate graphical displays to solve problems relevant to everyday life	
Course Topic	**Activities Title**
4.MDR.6 - Measure	Mass Word Problems
	Using Timetables
	Money Problems: Four Operations
	Perimeter: Squares and Rectangles
	Perimeter Detectives 1

Geometric & Spatial Reasoning

Course Topic	**Activities Title**
REVIEW 4.GSR.7 - Angles	Comparing Angles
	Right Angle Relation
	What Type of Angle 2?

Investigate the concepts of angles and angle measurement to estimate and measure angles.

4.GSR.7.1	
Recognize angles as geometric shapes formed when two rays share a common endpoint. Draw right, acute, and obtuse angles based on the relationship of the angle measure to 90 degrees.	
Course Topic	**Activities Title**
4.GSR.7 - Angles	Equal Angles

	Measuring Angles

4.GSR.7.2 Measure angles in reference to a circle with the center at the common endpoint of two rays. Determine an angle's measure in relation to the 360 degrees in a circle through division or as a missing factor problem.	
Course Topic	**Activities Title**
4.GSR.7 - Angles	Estimating Angles
	Angles of revolution: Value of x
	Right Angle Relation

Course Topic	**Activities Title**
REVIEW 4.GSR.8 - Shape	Collect the Shapes 1
	Collect the Shapes 2
	Collect the Polygons
	Count Sides and Corners

Identify and draw geometric objects, classify polygons based on properties, and solve problems involving area and perimeter of rectangular figures.

4.GSR.8.1 Explore, investigate, and draw points, lines, line segments, rays, angles (right, acute, obtuse), perpendicular lines, parallel lines, and lines of symmetry. Identify these in two-dimensional figures	
Course Topic	**Activities Title**
4.GSR.8 - Shape	What Line am I?
	Symmetry
	Lines of Symmetry

4.GSR.8.2 Classify, compare, and contrast polygons based on lines of symmetry, the presence or absence of parallel or perpendicular line segments, or the presence or absence of angles of a specified size and based on side lengths.	
Course Topic	**Activities Title**
4.GSR.8 - Shape	Triangles: Acute, Right, Obtuse
	Collect More Shapes

Grade 5

Numerical Reasoning

Course Topic	Activities Title
REVIEW 5.NR.1 - Place Value	Numbers in Words
	Numbers from Words to Digits 1
	Expanded Notation
	Groups of Ten
	Dividing Tens
	Multiplying by 10, 100, 1000
	Multiply Multiples of 10

Use place value understanding to solve real-life, mathematical problems.

5.NR.1.1	
Explain 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.	
Course Topic	**Activities Title**
5.NR.1- Place Value	Partition and Rename 3/Understanding Place Value 3 (CAN)
	Place Value 1 (×10 and ÷10)
	Place Value 2 (×10 and ÷10)
	Multiply More Multiples of 10

5.NR.1.2	
5.NR.1.2 Explain patterns in the placement of digits when multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10, up to 10^3.	
Course Topic	**Activities Title**
5.NR.1- Place Value	Multiply Decimals 10 100 1000
	Divide Decimals by Powers of 10 100 1000
	Multiply Decimals and Powers of 10

Course Topic	Activities Title
REVIEW 5.NR.2 - Multiplication & Division	Multiply: 2-Digit by 1-Digit
	Multiply: 1-Digit Number, Regroup
	Mental Methods Multiplication 1
	Mental Methods Multiplication 2
	Mental Methods Multiplication 3

Multiply and divide multi-digit whole numbers to solve relevant, mathematical problems

5.NR.2.1	
Fluently multiply multi-digit (up to 3- digit by 2-digit) whole numbers to solve authentic problems.	
Course Topic	**Activities Title**
5.NR.2 - Multiplication & Division	Grid Methods 1
	Grid Methods 2
	Grid Methods 3
	Long Multiplication
	Multiply: 1-Digit Number
	Estimate Products
	Problems: Multiply and Divide 1

5.NR.2.2	
Fluently divide multi-digit whole numbers (up to 4-digit dividends and 2-digit divisors no greater than 25) to solve practical problems	
Course Topic	**Activities Title**
5.NR.2 - Multiplication & Division	Divide: 1-Digit Divisor 1
	Divide: 1-Digit Divisor 2
	Long Division 1
	Problems: Multiply and Divide 1
	Estimate Quotients

Course Topic	**Activities Title**
REVIEW 5.NR.3 - Fractions	Equivalent Fractions on a Number Line 1
	The Equivalent Fraction
	Equivalent Fraction Wall 2
	Identifying Fractions Beyond 1
	Mixed and Improper Fractions on a Number Line
	Add Like Fractions
	Subtract Like Fractions

Describe fractions and perform operations with fractions to solve relevant, mathematical problems using part-whole strategies and visual models

5.NR.3.1	
Explain the meaning of a fraction as division of the numerator by the denominator ($\frac{a}{b}$ = a ÷ b). Solve problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers.	
Course Topic	**Activities Title**
5.NR.3 - Fractions	Divide Fractions Visual Model
	Divide by a Unit Fraction

5.NR.3.2	
Compare and order up to three fractions with different numerators and/or different denominators by flexibly using a variety of tools and strategies	
Course Topic	**Activities Title**
5.NR.3 - Fractions	Ordering Fractions 1

5.NR.3.3	
Model and solve problems involving addition and subtraction of fractions and mixed numbers with unlike denominators.	
Course Topic	**Activities Title**
5.NR.3 - Fractions	One Take Fraction
	Fraction Word Problems
	More Fraction Problems

5.NR.3.4	
Model and solve problems involving multiplication of a fraction and a whole number.	
Course Topic	**Activities Title**
5.NR.3 - Fractions	Model Fractions to Multiply
	Multiply Fraction by Whole Number
	Unit Fractions

5.NR.3.5	
Explain why multiplying a whole number by a fraction greater than one results in a product greater than the whole number, and why multiplying a whole number by a fraction less than one results in a product less than the whole number and multiplying a whole number by a fraction equal to one results in a product equal to the whole number.	
Course Topic	**Activities Title**
Teacher directed	Teacher directed

5.NR.3.6	
Model and solve problems involving division of a unit fraction by a whole number and a whole number by a unit fraction.	
Course Topic	**Activities Title**
5.NR.3 - Fractions	Fraction Length Models 1
	Fraction Length Models 2
	Divide Fractions Visual Model
	Divide by a Unit Fraction

Course Topic	Activities Title
REVIEW 5.NR.4 - Decimals	Decimals from Words to Digits 1
	Decimals on the Number Line
	Decimal Place Value
	Comparing Decimals 1
	Decimal Order 1

Read, write, and compare decimal numbers to the thousandths place, and round and perform operations with decimal numbers to the hundredths place to solve relevant, mathematical problems.

5.NR.4.1 Read and write decimal numbers to the thousandths place using base-ten numerals written in standard form and expanded form	
Course Topic	**Activities Title**
5.NR.4 - Decimals	Decimals from Words to Digits 2

5.NR.4.2 Represent, compare, and order decimal numbers to the thousandths place based on the meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	
Course Topic	**Activities Title**
5.NR.4 - Decimals	Comparing Decimals 2

5.NR.4.3 Use place value understanding to round decimal numbers to the hundredths place	
Course Topic	**Activities Title**
5.NR.4 - Decimals	Rounding Decimals 1

5.NR.4.4 Solve problems involving addition and subtraction of decimal numbers to the hundredths place using a variety of strategies.	
Course Topic	**Activities Title**
5.NR.4 - Decimals	Decimal Complements
	Add Decimals 1
	Add Decimals 2
	Estimate Decimal Differences 2
	Estimate Decimal Sums 1
	Money - totalling (USD)
	Making Change (USD)

Course Topic	Activities Title
REVIEW 5.NR.5 - Algebra	Missing Numbers
	Find the Missing Number 1

Write, interpret, and evaluate numerical expressions within authentic problems.

5.NR.5.1	
Write, interpret, and evaluate simple numerical expressions involving whole numbers with or without grouping symbols to represent actual situations.	
Course Topic	Activities Title
5.NR.5 - Algebra	Find the Missing Number 2
	Order of Operations 1 (PEDMAS)
	Order of Operations 2 (PEDMAS)
	Simple Substitution 1
	Simple Substitution 2
	Simple Substitution 3

Patterning & Algebraic Reasoning

Course Topic	Activities Title
REVIEW 5.PAR.6 – Patterns	Counting on a 100 grid
	Pattern Rules and Tables
	Count Forward Patterns
	Count Backward Patterns

Solve relevant problems by creating and analyzing numerical patterns using the given rule(s).

5.PAR.6.1	
Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms by completing a table.	
Course Topic	Activities Title
5.PAR.6 - Patterns	Pick the Next Number
	Table of Values

5.PAR.6.2	
Represent problems by plotting ordered pairs and explain coordinate values of points in the first quadrant of the coordinate plane.	
Course Topic	Activities Title
5.PAR.6 - Patterns	Coordinate Graphs: 1st Quadrant

Measurement & Data Reasoning

Course Topic	Activities Title
REVIEW 5.MDR.7 - Measurement	How Heavy?
	How Heavy is it?
	How Long is That?

Solve problems involving customary measurements, metric measurements, and time and analyze graphical displays of data to answer relevant questions.

5.MDR.7.1	
Explore realistic problems involving different units of measurement, including distance, mass, weight, volume, and time.	
Course Topic	**Activities Title**
5.MDR.7 - Measurement	Measuring Length
	Inches, Feet, Yards
	Ounces and Pounds
	Cups, Pints, Quarts, Gallons
	Litre Conversions
	Centimeters and Millimeters
	Centimetres and Metres
	Metres and Kilometres
	Customary Units of Weight 1
	Customary Units of Weight 2
	Customary Units of Capacity
	Customary Units of Length

5.MDR.7.2	
Ask questions and answer them based on gathered information, observations, and appropriate graphical displays to solve problems relevant to everyday life	
Course Topic	**Activities Title**
Teacher directed	Teacher directed

5.MDR.7.3	
Convert among units within the metric system and then apply these conversions to solve multistep, practical problems.	
Course Topic	**Activities Title**
5.MDR.7 - Measurement	Operations with Length
	Capacity Addition
	Mass Addition

5.MDR.7.4 Convert among units within relative sizes of measurement units within the customary measurement system.	
Course Topic	**Activities Title**
5.MDR.7 - Measurement	Inches, Feet, Yards
	Ounces and Pounds
	Cups, Pints, Quarts, Gallons

Geometric & Spatial Reasoning

Course Topic	**Activities Title**
REVIEW 5.GSR.8 - Shape	What Line am I?
	Triangles: Acute, Right, Obtuse
	Collect More Shapes
	Symmetry

Examine properties of polygons and rectangular prisms, classify polygons by their properties, and discover volume of right rectangular prisms.

5.GSR.8.1 Classify, compare, and contrast polygons based on properties.	
Course Topic	**Activities Title**
5.GSR.8 - Shape	Properties of Quadrilaterals
	Collect More Shapes

5.GSR.8.2 Determine, through exploration and investigation, that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category	
Course Topic	**Activities Title**
5.GSR.8 - Shape	Properties of Quadrilaterals
	Collect More Shapes

5.GSR.8.3 Investigate volume of right rectangular prisms by packing them with unit cubes without gaps or overlaps. Then, determine the total volume to solve problems.	
Course Topic	**Activities Title**
5.GSR.8 - Shape	How many Blocks?
	Volume of Solids and Prisms - 1 cm^3 blocks

5.GSR.8.4
Discover and explain how the volume of a right rectangular prism can be found by multiplying the area of the base times the height to solve authentic, mathematical problems.

Course Topic	Activities Title
Teacher directed	Teacher directed

Grade 6

Numerical Reasoning

Course Topic	Activities Title
REVIEW 6.NR.1 - Fractions & Decimals	Model Fractions to Multiply
	Multiply Fraction by Whole Number
	Divide Fractions Visual Model
	Divide by a Unit Fraction
	Rounding Decimals 1
	Decimal Complements
	Estimate Decimal Differences 2
	Estimate Decimal Sums 1
	Money - totalling (USD)
	Making Change (USD)

Solve relevant, mathematical problems involving operations with whole numbers, fractions, and decimal numbers

6.NR.1.1 Fluently add and subtract any combination of fractions to solve problems.	
Course Topic	Activities Title
6.NR.1 - Fractions & Decimals	Add Unlike Fractions
	Subtract Unlike Fractions
	Fraction Fruit Sets 1
	Fraction Fruit Sets 2

6.NR.1.2 Multiply and divide any combination of whole numbers, fractions, and mixed numbers using a student-selected strategy. Interpret products and quotients of fractions and solve word problems.	
Course Topic	Activities Title
6.NR.1 - Fractions & Decimals	Multiply Fraction by Fraction

6.NR.1.3 Perform operations with multi-digit decimal numbers fluently using models and student-selected strategies	
Course Topic	Activities Title
6.NR.1 - Fractions & Decimals	Add Decimals 1
	Add Decimals 2
	Subtract Decimals 2

	Adding and Subtracting Decimals
	Adding Decimals
	Multiply Decimal by Whole Number
	Multiply Decimals: Area Model
	Multiply Decimals 1
	Decimal by Decimal 1
	Divide Decimals
	Divide Decimal by Whole Number
	Divide Decimal by Decimal

Apply operations with whole numbers, fractions and decimals within relevant applications.

6.NR.2.1	
Describe and interpret the center of the distribution by the equal share value (mean).	
Course Topic	**Activities Title**
Teacher directed	Teacher directed

6.NR.2.2	
Summarize categorical and quantitative (numerical) data sets in relation to the context: display the distributions of quantitative (numerical) data in plots on a number line, including dot plots, histograms, and box plots and display the distribution of categorical data using bar graphs.	
Course Topic	**Activities Title**
6.NR.2 - Data	Histograms
	Line Graphs: Reading
	Understanding Box-and-Whisker Plots

6.NR.2.3	
Interpret numerical data to answer a statistical investigative question created. Describe the distribution of a quantitative (numerical) variable collected, including its center, variability, and overall shape.	
Course Topic	**Activities Title**
6.NR.2 - Data	Mode
	Mode from Frequency Table
	Calculating Interquartile Range
	Data Terms

6.NR.2.4
Design simple experiments and collect data. Use data gathered from realistic scenarios and simulations to determine quantitative measures of center (median and/or mean) and variability (interquartile range and range). Use these quantities to draw conclusions about the data, compare different numerical data sets, and make predictions.

Course Topic	Activities Title
6.NR.2 - Data	The Mean
	Mean from Frequency Table
	The Median
	Median from Frequency Table
	Grouping data and modal class

6.NR.2.5
Relate the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.

Course Topic	Activities Title
6.NR.2 - Data	Line Plots
	Dot Plots
	Data Terms

6.NR.2.6
Describe the impact that inserting or deleting a data point has on the mean and the median of a data set. Create data displays using a dot plot or box plot to examine this impact.

Course Topic	Activities Title
6.NR.2 – Data	Data Terms

Solve a variety of problems involving whole numbers and their opposites; model rational numbers on a number line to describe problems presented in relevant, mathematical situations.

6.NR.3.1
Identify and compare integers and explain the meaning of zero based on multiple authentic situations.

Course Topic	Activities Title
6.NR.3 - Integers	Number Plane
	Coordinate Graphs
	What's the Temperature (Celsius)?

6.NR.3.2	
Order and plot integers on a number line and use distance from zero to discover the connection between integers and their opposites.	
Course Topic	**Activities Title**
6.NR.3 - Integers	Integers on a Number Line
	Ordering Integers (Number Line)
	Comparing Integers

6.NR.3.3	
Recognize and explain that opposite signs of integers indicate locations on opposite sides of zero on the number line; recognize and explain that the opposite of the opposite of a number is the number itself.	
Course Topic	**Activities Title**
6.NR.3 - Integers	Integers on a Number Line

6.NR.3.4	
Write, interpret, and explain statements of order for rational numbers in authentic, mathematical situations. Compare rational numbers, including integers, using equality and inequality symbols.	
Course Topic	**Activities Title**
6.NR.3 - Integers	Inequalities on a Number Line: Basics

6.NR.3.5	
Explain the absolute value of a rational number as its distance from zero on the number line; interpret absolute value as distance for a positive or negative quantity in a relevant situation.	
Course Topic	**Activities Title**
6.NR.3 - Integers	Absolute Value

Solve a variety of contextual problems involving ratios, unit rates, equivalent ratios, percentages, and conversions within measurement systems using proportional reasoning.

6.NR.4.1	
Explain the concept of a ratio, represent ratios, and use ratio language to describe a relationship between two quantities.	
Course Topic	**Activities Title**
6.NR.4 - Rates Ratios & Proportions	Word Problems: Ratio
	Rate Word Problems

6.NR.4.2
Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.

Course Topic	Activities Title
6.NR.4 - Rates Ratios & Proportions	Direct Linear Variation/y=ax
	Conversion Graphs

6.NR.4.3
Solve problems involving proportions using a variety of student-selected strategies.

Course Topic	Activities Title
6.NR.4 - Rates Ratios & Proportions	Solve Proportions
	Equivalent Ratios
	Ratio and Proportion
	Simplify Ratios: 2 Whole numbers

6.NR.4.4
Describe the concept of rates and unit rate in the context of a ratio relationship.

Course Topic	Activities Title
6.NR.4 - Rates Ratios & Proportions	Average Speed
	Distance Travelled

6.NR.4.5
Solve unit rate problems including those involving unit pricing and constant speed.

Course Topic	Activities Title
6.NR.4 - Rates Ratios & Proportions	Best Buy

6.NR.4.6
Calculate a percent of a quantity as a rate per 100 and solve everyday problems given a percent.

Course Topic	Activities Title
6.NR.4 - Rates Ratios & Proportions	Modelling Percentages
	Percent of a Number (Mental)
	Percents and Decimals
	Fractions to Percentages (Non-Calculator)
	Fractions to Decimals
	Match Decimals and Percentages
	Percent Increase and Decrease
	Solve Percent Equations
	Percentage Change: Increase and Decrease

6.NR.4.7
Use ratios to convert within measurement systems (customary and metric) to solve authentic problems that exist in everyday life.

Course Topic	Activities Title
6.NR.4 - Rates Ratios & Proportions	Conversion Graphs

Geometric & Spatial Reasoning

Course Topic	Activities Title
REVIEW 6.GSR.5 - Area & Volume	Calculate Area of Shapes (inches, feet, yards)
	Area of Squares and Rectangles
	Calculate Areas of Squares and Rectangles
	How many Blocks?
	Volume of Solids and Prisms - 1 cm^3 blocks

Solve relevant problems involving area, surface area, and volume.

6.GSR.5.1
Explore area as a measurable attribute of triangles, quadrilaterals, and other polygons conceptually by composing or decomposing into rectangles, triangles, and other shapes. Find the area of these geometric figures to solve problems.

Course Topic	Activities Title
6.GSR.5 - Area & Volume	Area: Right Angled Triangles
	Area of Triangles
	Area of Quadrilaterals
	Area: Compound Figures
	Area: Parallelograms
	Area: Parallelograms (Metric)
	Area: Composite Shapes

6.GSR.5.2
Given the net of three-dimensional figures with rectangular and triangular faces, determine the surface area of these figures.

Course Topic	Activities Title
6.GSR.5 - Area & Volume	Faces, Edges and Vertices of 3D Shapes
	Faces, Edges, and Vertices 1
	Nets
	Surface Area: Cuboids
	Surface Area: Rectangular Prisms
	Surface Area: Rectangular Prisms 1
	Surface Area: Triangular Prisms 1

6.GSR.5.3	
Calculate the volume of right rectangular prisms with fractional edge lengths by applying the formula, V = (area of base) x (height).	
Course Topic	**Activities Title**
6.GSR.5 - Area & Volume	Volume of Rectangular Prisms 1

Patterning & Algebraic Reasoning

Course Topic	**Activities Title**
REVIEW 6.PAR.6 - Equalities & Inequalities	Order of Operations 1 (PEDMAS)
	Order of Operations 2 (PEDMAS)
	Simple Substitution 1
	Simple Substitution 2
	Simple Substitution 3

Identify, write, evaluate, and interpret numerical and algebraic expressions as mathematical models to explain relevant situations.

6.PAR.6.1	
Write and evaluate numerical expressions involving rational bases and whole-number exponents.	
Course Topic	**Activities Title**
6.PAR.6 /7 - Equalities & Inequalities	Writing Equations
	Writing Algebraic Expressions
	Equations to Solve Problems
	Missing Values: Decimals
	I am Thinking of a Number!
	Solve Equations: Add, Subtract 1
	Solve Equations: Multiply, Divide 1
	Solving Simple Equations
	Index Notation and Algebra/Exponent Notation and Algebra

6.PAR.6.2	
Determine greatest common factors and least common multiples using a variety of strategies to make sense of applicable problems.	
Course Topic	**Activities Title**
6.PAR.6 /7 - Equalities & Inequalities	Factors
	Find the Factor
	Greatest Common Factor
	Multiples of

	Least Common Multiple
	Using the Distributive Property
	Factorising Expressions

6.PAR.6.3 Write and read expressions that represent operations with numbers and variables in realistic situations.	
Course Topic	**Activities Title**
6.PAR.6 /7 - Equalities & Inequalities	Writing Equations
	Writing Algebraic Expressions
	Equations to Solve Problems
	Solve Equations: Multiply, Divide 1

6.PAR.6.4 Evaluate expressions when given values for the variables, including expressions that arise in everyday situations	
Course Topic	**Activities Title**
6.PAR.6 /7 - Equalities & Inequalities	Order of Operations 1 (BIDMAS)/Order of Operations 1 (BEDMAS)

6.PAR.6.5 Apply the properties of operations to identify and generate equivalent expressions.	
Course Topic	**Activities Title**
6.PAR.6 /7 - Equalities & Inequalities	Solve Equations: Multiply, Divide 1

Write and solve one-step equations and inequalities as mathematical models to explain authentic, realistic situations.

6.PAR.7.1 Solve one-step equations and inequalities involving variables when values for the variables are given. Determine whether an equation and inequality involving a variable is true or false for a given value of the variable	
Course Topic	**Activities Title**
6.PAR.6 /7 - Equalities & Inequalities	Fit the Conditions 1

6.PAR.7.2
Write one-step equations and inequalities to represent and solve problems; explain that a variable can represent an unknown number or any number in a specified set.

Course Topic	Activities Title
6.PAR.6 /7 - Equalities & Inequalities	Index Notation and Algebra/Exponent Notation and Algebra

6.PAR.7.3
Solve problems by writing and solving equations of the form $x + p = q$, $px = q$ and $x/p = q$ for cases in which p, q and x are all nonnegative rational numbers.

Course Topic	Activities Title
6.PAR.6 /7 - Equalities & Inequalities	Factorising Expressions
	Checking Solutions

6.PAR.7.4
Recognize and generate inequalities of the form $x > c$, $x \geq c$, $x \leq c$, or $x < c$ to explain situations that have infinitely many solutions; represent solutions of such inequalities on a number line.

Course Topic	Activities Title
6.PAR.6 /7 - Equalities & Inequalities	Inequalities on a Number Line: Mixed Basics
	Graphing Inequalities on a Number Line

Course Topic	Activities Title
REVIEW 6.PAR.8 - Plotting on the cartesian plane	Coordinate Graphs: 1st Quadrant
	Scale

Graph rational numbers as points on the coordinate plane to represent and solve contextual, mathematical problems; draw polygons using the coordinates for their vertices and find the length of a side of a polygon.

6.PAR.8.1
Locate and position rational numbers on a horizontal or vertical number line; find and position pairs of integers and other rational numbers on a coordinate plane.

Course Topic	Activities Title
6.PAR.8 - Plotting on the cartesian plane	Graphing from a Table of Values
	Graphing from a Table of Values 2

6.PAR.8.2
Show and explain that signs of numbers in ordered pairs indicate locations in quadrants of the coordinate plane and determine how two ordered pairs may differ based only on the signs.

Course Topic	Activities Title
6.PAR.8 - Plotting on the cartesian plane	Reading Values from a Line

6.PAR.8.3
Solve 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 x-coordinate or the same y-coordinate.

Course Topic	Activities Title
6.PAR.8 - Plotting on the cartesian plane	Horizontal and Vertical Change

6.PAR.8.4
Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same x-coordinate or the same y-coordinate.

Course Topic	Activities Title
6.PAR.8 - Plotting on the cartesian plane	Horizontal and Vertical Change

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