GREEN TOWNSHIP SCHOOL DISTRICT

Content Area: **Mathematics**

Course/Grade Level: **Grade 3**

Curriculum Committee Members:
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Principal:
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Board Approval Date:
2/18/26

Mission:

A New Jersey education in Mathematics builds quantitatively and analytically literate citizens prepared to meet the demands of college and career, and to engage productively in an information-driven society. All students will have access to a high-quality mathematics education that fosters a population that:

- **leverages data in decision-making and as a lens for discussing, analyzing, and responding to practical questions.**
- **persists to make sense of and model problems arising in everyday life, society, and the workplace.**
- **thinks critically and strategically to assess quantitative relationships and to solutions to complex problems.**
- **employs precise reasoning and constructs viable arguments to deduce conclusions, recognize false statements and assess peers' reasoning.**
- **interprets, evaluates and critiques the mathematics embedded in social, scientific and commercial systems, as well as the claims made in the private and public sectors.**
- **communicates precisely when conveying, representing, and justifying both qualitative and quantitative perspectives.**

Key Performance and Benchmark Tasks/Assessments

Resources for help in creating assessments

Formative assessments:

- Exit Tickets
- Sprints

Summative Assessments:

Examples may include:

- Mid-Module Assessments for Modules 1-6
- End of the Unit Assessments for Modules 1-6
- Topic Area Quizzes

Benchmark Assessments:

- Teacher-created benchmark assessments to be given periodically during the year.

Alternative Assessments:

- Teacher modifies assignments and activities based on student needs.
- Oral assessments administered in place of written when necessary.
- Accommodation and modification ideas may be found here:
    - Modifications & Accommodations Menu
    - *Assessments other than paper & pencil tests See link for more info: http://education.gmu.edu/assets/docs/forms/mirs/assessment_brochure.pdf*

Integrated Accommodations & Modifications

Please utilize the link below for ideas and strategies to use with ***ELL, Students with IEPS & 504s, At-Risk Students and Gifted & Talented Students***.

The attached worksheets can be printed ahead of each unit during the planning phase to help the teacher plan for the needs of particular students in each class, allowing for differentiation per unit and per year. The worksheets contain suggested accommodations and modifications for Content & Material, Student Organization, Instructional Strategies, Assessments, Attention/Focus, Written Language, and Social/Behavioral.
Modifications & Accommodations Menu

Unit 1

Multiplication and Division with Units of 2, 3, 4, 5, and 10	**Pacing: 5 Weeks**

Unit Summary: Students will learn to understand and solve multiplication and division problems by using arrays, equal groups, drawings, and equations, while recognizing factors, quotients, and the relationship between multiplication and division. They will also explore and apply the commutative and distributive properties, breaking problems into smaller parts and composing arrays to deepen their understanding of number relationships.

Essential Questions:

- How do equal groups, repeated addition, and arrays help us understand multiplication?
- What does division mean, and how do division models help us solve problems?
- How are multiplication and division related?
- How do the properties of multiplication (commutative, associative, and distributive) help us become more efficient problem-solvers?
- How can we use models, equations, and strategies to solve real-world multiplication and division problems?
- How do we determine what is known and unknown in a word problem and choose an appropriate strategy to solve it?

Enduring Understandings:

- Multiplication represents equal groups and can be expressed through repeated addition, arrays, and equations.
- Division can be understood as either finding the number of groups or the size of each group, and is closely connected to multiplication.
- Mathematical properties, such as the commutative and distributive properties, help us solve multiplication and division problems efficiently.
- Models, equations, and problem-solving strategies help us make sense of and solve real-world multiplication and division situations.

New Jersey Student Learning Standards	Student Learning Objectives	Practices
3.OA.A.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. **3.OA.A.2 Interpret** whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. **3.OA.A.3 Use** multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. **3.OA.A.4 Determine** the unknown whole number in a multiplication or division equation relating three whole numbers. **2.OA.C.3 Determine** whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends. **2.OA.C.4**Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends. **3.OA.B.5 Apply** properties of operations as strategies to multiply and divide. **3.OA.B.6 Understand** division as an unknown-factor problem.	Topic A: Students will be able to: ● organize, count, and recognize a collection of objects ● interpret equal groups as multiplication ● relate multiplication to the array model. ● interpret the meaning of factors as numbers in a group or the number of groups ● represent and solve multiplication problems by using drawings and equations. Topic B: Students will be able to: ● model measurement and partitive division by drawing equal groups ● model measurement and partitive division drawing arrays ● represent and solve division word problems using drawings and equations. Topic C: Students will be able to: ● demonstrate the commutative property of multiplication using a unit of 2 and the array model. ● demonstrate the commutative property of multiplication using a unit of 4 and the array model. ● demonstrate the distributive property using a unit of 4. ● demonstrate the commutative property of multiplication using a unit of 3 and the array model. ● demonstrate the distributive property using units of 2, 3, 4, 5, and 10. Topic D: Students will be able to: ● model division as an unknown factor problem. ● model the quotient as the number of groups using units of 2, 3, 4, 5, and 10.	● Make sense of problems and persevere in solving them ● Reason abstractly and quantitatively ● Model with mathematics ● Attend to precision

2.NBT.A.2 Count within 1000; skip-count by 5s, 10s, and 100s. **3.OA.C.7** Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers. **3.OA.D.8 Solve** two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	• model the quotient as the size of each group using units of 2, 3, 4, 5, and 10. • • represent and solve measurement and partitive division word problems. Topic E: Students will be able to: • use the distributive property to break apart multiplication problems into known facts. • use the distributive property to break apart division problems into known facts. • compose and decompose arrays to create expressions with three factors. • represent and solve two-step word problems using the properties of multiplication. • represent and solve two-step word problems using drawings and equations.	

Interdisciplinary Connections

2020 Career Readiness, Life Literacies, and Key Skills

9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
9.4.5.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1).
9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.
9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).

Unit 1: Core Unit Content

Vocabulary	*Key Concepts*

- ❑ Commutative Property
- ❑ division
- ❑ factor
- ❑ multiplication
- ❑ parentheses
- ❑ product
- ❑ quotient
- ❑ rotate
- ❑ array
- ❑ column
- ❑ equal groups
- ❑ equation
- ❑ estimate (noun/verb)
- ❑ expression
- ❑ repeated addition
- ❑ row
- ❑ skip count
- ❑ unit
  unit form
- ❑ unknown

Topic A: Introduction to Equal Groups and Multiplication

- Multiplication can represent a collection of equal groups.
- Arrays help us visualize multiplication and understand the meaning of factors.
- Equal groups can be represented using drawings, repeated addition, and multiplication equations.
- Factors tell us how many groups there are and how many items are in each group.

Topic B: Introduction to Division

- Division can represent sharing equally or measuring how many groups can be made.
- Equal groups and arrays are models that help show division.
- Division equations and drawings help us represent and solve division word problems.

Topic C: Multiplication Properties

- The **commutative property** shows that the order of factors does not change the product.
- Arrays and equal groups help demonstrate the commutative property using different units.
- The **distributive property** helps break large multiplication facts into smaller, known facts.

	• Using strategies based on properties builds efficiency and number sense. **Topic D: Connecting Multiplication and Division** • Division can be interpreted as an unknown factor problem. • The quotient can represent the number of equal groups or the size of each group. • Strategies and models help us solve measurement and partitive division problems. **Topic E: Applying Properties to Multiply and Divide** • The distributive property can break multiplication and division problems into known facts. • Arrays can be decomposed to show multiplication expressions with two or three factors. • Using structure and known facts makes multiplication and division more efficient.

Unit 1: Instructional Materials & Resources	
	• Eureka Squared Slides and Workbooks • HappyNumbers.com • Prodigygame.com • Reflex • Splashlearn.com

Unit 1: Assessments

Formative assessments:

- Exit tickets, sprints

Summative Assessments:

- Mid-Module Assessment for Module 1
- End of the Unit Assessment for Module 1
- Topic Area Quizzes

Alternative Assessments:

- Design projects
- Teacher Observations/Small Group Work
- Graphic Organizers
- Reflective Journals

Unit 1: Accommodations & Modifications

Please utilize the link below for ideas and strategies to use with ELL, Students with IEPS & 504s, At-Risk Students and Gifted & Talented Students. Note possible accommodations or modifications for this unit below.
Modifications & Accommodations Menu

Unit 2

Place Value Concepts Through Metric Measurement	Pacing: 5 Weeks

Unit Summary: **Students will learn to measure, estimate, and solve problems involving weight, liquid volume, and temperature, using metric units, number lines, and all four operations. They will also develop strategies for rounding, adding, and subtracting numbers and measurements efficiently, while representing and analyzing data with graphs.**

Essential Questions:

- How do standard units of measurement help us describe and compare weight, volume, and temperature?
- How can number lines and measurement scales help us read and interpret units and estimate measurements?
- Why do we round numbers, and how does rounding help us solve real-world problems?
- How can bar graphs help us represent, interpret, and solve problems using data?
- How do strategies based on place value help us add and subtract efficiently?
- When should we use mental math, rounding, models, or algorithms to solve a problem, and how do we know which strategy is most efficient?
- How can we determine whether an answer is reasonable when solving measurement and word problems?

Enduring Understandings:

- Standard measurement units such as grams, kilograms, milliliters, and liters allow us to describe and compare weight and volume accurately.
- Measurement tools and scales can be interpreted using place value concepts and the number line to understand intervals and estimate quantities.
- Rounding helps us make reasonable estimates and efficiently solve real-world problems involving measurement and computation.
- Graphs, models, and equations help us organize numerical data and solve mathematical problems using addition and subtraction.
- Using place value, strategies, and algorithms helps us compute accurately and efficiently, and choosing the best method depends on the situation.

New Jersey Student Learning Standards	Student Learning Objectives	Practices

3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. **2.NBT.B.7 Add** and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds. **2.NBT.B.8 Mentally** add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900. **3.NBT.A.1 Use** place value understanding to round whole numbers to the nearest 10 or 100. **3.NBT.A.2 Fluently** add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. **2.MD.B.6 Represent** whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2,..., and represent whole-number sums and differences within 100 on a number line diagram. **3.MD.A.2 Measure** and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. **3.MD.B.3 Draw** a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve	Topic A: Students will be able to: ● Connect the composition of 1 kilogram to the composition of 1 thousand. ● Estimate the weight of familiar objects and read scales when weighing objects. ● Use all four operations to solve one-step word problems involving weight. ● Connect the decomposition of 1 liter to the decomposition of 1 thousand. ● Estimate and measure liquid volume using a vertical number line and connect composition of 1 liter to composition of 1 thousand. ● Use all four operations to solve one-step word problems involving liquid volume. ● Solve one-step word problems using metric units. Topic B: Students will be able to: ● Read temperatures on a thermometer using number line concepts. ● Round two-digit numbers to the nearest ten on the vertical number line. ● Round two- and three-digit numbers to the nearest ten on the vertical number line. ● Round to the nearest hundred on the vertical number line. ● Estimate sums and differences by rounding. Topic C: Students will be able to: ● Collect and represent data in a scaled bar graph and solve related problems. ● Use place value understanding to add and subtract like units. ● Use the associative property to make the next ten to add.	● Use appropriate tools strategically ● Attend to precision ● Model with mathematics

one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs.	• Use compensation to add. • Use place value understanding to subtract efficiently using take from a ten. • Use place value understanding to subtract efficiently using take from a hundred. • Use compensation to subtract. Topic D: Students will be able to: • Add measurements using the standard algorithm to compose larger units once. • Add measurements using the standard algorithm to compose larger units twice. • Subtract measurements using the standard algorithm to decompose larger units once. • Subtract measurements using the standard algorithm to decompose larger units twice. • Subtract measurements using the standard algorithm to decompose larger units across two place values. • Solve two-step word problems.	

Interdisciplinary Connections

2020 Career Readiness, Life Literacies, and Key Skills

9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
9.4.5.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1).
9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.
9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).

Unit 2: Core Unit Content

Vocabulary	*Key Concepts*
❑ capacity ❑ gram ❑ kilogram ❑ liter ❑ liquid volume ❑ milliliter ❑ operation ❑ rounding ❑ scaled bar graph ❑ standard algorithm	**Topic A: Measurement – Weight and Liquid Volume** ● Metric units (grams, kilograms, milliliters, liters) are composed and decomposed using place value relationships. ● Estimation and measurement help us understand the size of familiar objects. ● Vertical number lines provide a visual model for reading scales and understanding intervals. ● All four operations can be applied to solve one-step word problems involving weight and liquid volume. ● Understanding unit composition (1 kg = 1,000 g; 1 L = 1,000 mL) supports accurate measurement and problem solving. **Topic B: Rounding and Estimation** ● Number lines (vertical and horizontal) help visualize numerical relationships. ● Rounding numbers to the nearest ten or hundred supports estimation. ● Estimation helps check the reasonableness of sums and differences. ● Understanding proximity to halfway points determines rounding direction. **Topic C: Addition and Subtraction Strategies**

	● Place value understanding supports addition and subtraction of like units. ● Strategies like making the next ten, taking from a ten or hundred, and compensation improve efficiency. ● The associative property helps structure addition to simplify calculations. ● Scaled bar graphs represent data and provide a context for applying addition and subtraction. **Topic D: Standard Algorithm for Measurement** ● Composing and decomposing units allows accurate addition and subtraction of measurements. ● Standard algorithms apply to multiple place values for precise computation. ● Two-step word problems require applying addition and subtraction skills in sequence. ● Understanding place value ensures reasoning and accuracy when combining or separating measurement units. ❑

Unit 2: Instructional Materials & Resources	
	● Eureka Squared Slides and Workbooks ● Reflex ● HappyNumbers.com ● Prodigygame.com ● Splashlearn.com

Unit 2: Assessments

Formative assessments:

- Exit tickets, sprints

Summative Assessments:

- Mid-Module Assessment for Module 2
- End of the Unit Assessment for Module 2
- Topic Area Quizzes

Alternative Assessments:

- Design Projects
- Teacher Observations/Small Group Work
- Graphic Organizers
- Reflective Journals

Unit 2: Accommodations & Modifications

Please utilize the link below for ideas and strategies to use with ELL, Students with IEPS & 504s, At-Risk Students and Gifted & Talented Students. Note possible accommodations or modifications for this unit below.
Modifications & Accommodations Menu

Unit 3

Multiplication and Division with Units of 0, 1, 6, 7, 8, and 9	Pacing: 5 weeks

Unit Summary: Students will build mastery in multiplication and division by using arrays, tape diagrams, break-apart strategies, and place value, while exploring patterns with different units and factors. They will also solve one- and two-step word problems, apply properties like associative and distributive, and create expressions and problems to strengthen reasoning and problem-solving skills.

Essential Questions:

- How can we use arrays, tape diagrams, and place value models to represent multiplication and division problems?
- How do the properties of operations (commutative, associative, distributive) help us solve multiplication and division efficiently?
- How can we break unfamiliar multiplication and division problems into smaller, known facts?
- What patterns in multiplication and division help us make predictions and solve problems?
- How can we use what we know about multiplication and division to solve one- and two-step word problems?
- How does understanding place value help us multiply multiples of 10 by one-digit numbers?

Enduring Understandings:

- Multiplication and division can be understood, represented, and solved using a variety of models, including arrays, tape diagrams, and place value models.
- Properties of operations—commutative, associative, and distributive—help us solve multiplication and division problems efficiently and flexibly.
- Breaking apart numbers into known facts allows us to solve unfamiliar multiplication and division problems.
- Recognizing and generalizing patterns in numbers, tables, and operations supports problem-solving and reasoning.
- Mathematical representations and strategies can be applied to real-world contexts, including one- and two-step word problems.
- Multiplying by multiples of 10 and understanding the structure of numbers extends foundational multiplication and division skills.

New Jersey Student Learning Standards	Student Learning Objectives	Practices
3.OA.A.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. **3.OA.A.2 Interpret** whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. **3.OA.A.3 Use** multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. **3.OA.A.4 Determine** the unknown whole number in a multiplication or division equation relating three whole numbers. **3.OA.B.5 Apply** properties of operations as strategies to multiply and divide. **3.OA.B.6 Understand** division as an unknown-factor problem. **3.OA.C.7**Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers. **3.OA.D.8 Solve** two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	Topic A: Students will be able to: ● Organize, count, and represent a collection of objects. ● Count by units of 6 to multiply and divide by using arrays. ● Count by units of 8 to multiply and divide by using arrays. ● Decompose pictorial arrays to create expressions with three factors. ● Use the break apart and distribute strategy to multiply with units of 6 and 8. ● Use the break apart and distribute strategy to divide with units of 6 and 8. Topic B: Students will be able to: ● Count by units of 7 to multiply and divide by using arrays and tape diagrams. ● Use the break apart and distribute strategy to multiply with units of 7. ● Model the associative property as a strategy to multiply. ● Use parentheses in expressions with different operations. ● Use the break apart and distribute strategy to divide with units of 7. ● Solve one-step word problems involving multiplication and division. Topic C: Students will be able to: ● Apply strategies and identify patterns to multiply with units of 9. ● Reason about and explain patterns of multiplication and division with units of 1, and 0.	● Make sense of problems and persevere in solving them ● Reason abstractly and quantitatively ● Model with mathematics ● Attend to precision

3.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. **3.NBT.A.3 Multiply** one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.	• Identify patterns by using the multiplication table. • Identify and complete patterns with input-output tables. • Create multiplication and division word problems. • Solve two-step word problems by using the four operations and assess the reasonableness of solutions. Topic D: Students will be able to: • Multiply by multiples of 10 by using the place value chart. • Multiply by multiples of 10 by using place value strategies and the associative property. • Solve two-step word problems involving multiplication of single-digit factors and multiples of 10. • Identify patterns and apply strategies to multiply with units of 11 and 12. (Optional) • Organize, count, and represent a collection of objects.	

Interdisciplinary Connections

2020 Career Readiness, Life Literacies, and Key Skills

9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
9.4.5.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1).
9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.
9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).

Unit 3: Core Unit Content

Vocabulary	*Key Concepts*

❏ multiple	❏ Topic A: Multiplication and Division Concepts with an Emphasis on Units of 6 and 8 ❏ Topic B: Multiplication and Division Concepts with an Emphasis on the Unit of 7 ❏ Topic C: Analysis of Patterns Using Units of 9, 0, and 1 ❏ Topic D: Multiplication with Multiples of 10 and Further Application of Concepts

Unit 3: Instructional Materials & Resources

	● Eureka Squared Slides and Workbooks ● Reflex ● HappyNumbers.com ● Prodigygame.com ● Splashlearn.com

Unit 3: Assessments

Formative assessments:
- Exit tickets, sprints

Summative Assessments:
- Mid-Module Assessment for Module 3
- End of the Unit Assessment for Module 3

Alternative Assessments:
- Design Projects
- Teacher Observations/Small Group Work
- Graphic Organizers
- Reflective Journals

Unit 3: Accommodations & Modifications

Please utilize the link below for ideas and strategies to use with ELL, Students with IEPS & 504s, At-Risk Students and Gifted & Talented Students. Note possible

accommodations or modifications for this unit below.
[Modifications & Accommodations Menu]

Unit 4

Multiplication and Area	**Pacing: 4 weeks**
Unit Summary: Students will learn to explore, compose, and decompose polygons to understand and calculate area using tiling, arrays, and multiplication of side lengths. They will also apply their understanding of area to solve real-world problems, work with composite shapes, and represent area data in visual formats like line plots.	
Essential Questions: ● What is area, and how can it be measured using square units? ● How can tiling, counting, and skip-counting help us determine the area of polygons? ● How does multiplication relate the side lengths of a rectangle to its area? ● How do the commutative, associative, and distributive properties help us find area efficiently? ● How can we compose and decompose shapes to find area or unknown side lengths? ● How can area be applied to solve real-world problems and analyze measurement data?	**Enduring Understandings:** ● Area is an attribute of polygons that can be measured using square units. ● Tiling, counting, and skip-counting square units provide strategies for determining area. ● Multiplication can represent the relationship between a rectangle's side lengths and its area. ● Properties of operations—commutative, associative, and distributive—help us calculate area efficiently and flexibly. ● Rectangles and shapes can be composed and decomposed to solve for area and unknown side lengths.

New Jersey Student Learning Standards	Student Learning Objectives	Practices
2.MD.A.2 Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen. **2.G.A.1 Recognize** and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. **2.G.A.3 Partition** circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape. **3.MD.C.5 Recognize** area as an attribute of plane figures and understand concepts of area measurement. **3.MD.C.6 Measure** areas by counting unit squares (square cm, square m, square in, square ft, and non-standard units). **3.G.A.1**Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	Topic A: Students will be able to: ● Explore attributes of squares, rectangles, and trapezoids. ● Recognize area as an attribute of polygons. ● Tile polygons to find their areas. ● Compose rectangles to compare areas. ● Relate side lengths to the number of tiles on a side. Topic B: Students will be able to: ● Tile rectangles with squares to make arrays and relate the side lengths to area. ● Draw rows and columns to complete a rectangular array and determine its area. ● Determine the area of a rectangle by using side lengths. ● Multiply side lengths to find the area of a rectangle. Topic C: Students will be able to: ● Compose large rectangles and reason about their areas. ● Decompose to find the total area of a rectangle. ● Find all possible side lengths Topic D: Students will be able to: ● Apply area understanding to real-world situations. ● Reason to find the area of composite shapes by using grids. ● Reason to find the area of composite shapes by using rectangles. ● Solve historical math problems involving area. ● Apply area concepts to a real-world context.	● Reason abstractly and quantitatively ● Construct viable arguments and critique the reasoning of others ● Model with mathematics ● Use appropriate tools strategical ● Look for and express regularity in repeated reasoning

	• Find the area of shapes and represent area data on a line plot. • Apply area concepts to complete a multi-part task.	

Interdisciplinary Connections

2020 Career Readiness, Life Literacies, and Key Skills

9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
9.4.5.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1).
9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.
9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).

Unit 4: Core Unit Content

Vocabulary	*Key Concepts*
❑ area ❑ area model ❑ length ❑ side length ❑ square centimeter ❑ square inch ❑ square units ❑ units ❑ width	❑ Topic A: Foundations for Understanding Area ❑ Topic B: Concepts of Area Measurements ❑ Topic C: Applying Properties of Operations to Area ❑ Topic D: Applications of Area

Unit 4: Instructional Materials & Resources

	• Eureka Squared Slides and Workbooks

	• Reflex • HappyNumbers.com • Prodigygame.com • Splashlearn.com

Unit 4: Assessments

Formative assessments:

- Exit Tickets and Sprints

Summative Assessments:

- Mid-Module Assessment for Module 4
- End of the Unit Assessment for Module 4

Alternative Assessments:

- Design Projects
- Teacher Observations/Small Group Work
- Graphic Organizers
- Reflective Journals

Unit 4: Accommodations & Modifications

Please utilize the link below for ideas and strategies to use with ELL, Students with IEPS & 504s, At-Risk Students and Gifted & Talented Students. Note possible accommodations or modifications for this unit below.
Modifications & Accommodations Menu

Unit 5

Multiplication and Area	**Pacing: 6 weeks**
Unit Summary: In this unit, students build an understanding of fractions as numbers by partitioning wholes into equal parts and using unit fractions to represent and build fractional quantities. They represent, compare, and locate fractions on the number line, reasoning about the size of parts and their distance from zero. Students also identify equivalent fractions and apply their understanding to solve real-world and problem-solving tasks.	
Essential Questions: ● What does a fraction represent, and how do fractions describe parts of a whole? ● How does the number of equal parts in a whole affect the size of each fraction? ● What is a unit fraction, and how can unit fractions be used to build other fractions? ● How can fractions be composed and decomposed to make a whole or more than a whole? ● How do models (objects, drawings, number bonds, tape diagrams, and number lines) help us understand and represent fractions?	**Enduring Understandings:** ● Fractions are numbers that represent equal parts of a whole. ● The size of a fractional part depends on how many equal parts the whole is divided into. ● A unit fraction is one equal part of a whole and is the building block for all other fractions. ● Multiple unit fractions can be combined (iterated) to form non-unit fractions and whole numbers. ● Fractions can be composed and decomposed in multiple ways while still referring to the same whole.

• How can we compare fractions by reasoning about the size of their parts rather than just the numbers? • How does a fraction's location on a number line show its value and distance from zero? • Why can different fractions represent the same value (equivalent fractions)? • How can fractions be greater than 1, and how do they relate to whole numbers? • How can number lines help us count, compare, and find equivalent fractions greater than 1? • How are fractions used to measure length and represent real-world data? • How can understanding fractions help us solve new and unfamiliar problems?	• Concrete models, drawings, and diagrams help make abstract fraction concepts visible and understandable. • Fractions must refer to the same whole to be meaningfully compared. • Fractions can be compared by reasoning about the size of their parts, not just the numbers in the fraction. • A number line shows fractions as distances from 0 and helps represent their relative sizes. • Equivalent fractions name the same point on a number line even though they look different. • Fractions can be used to measure lengths and represent real-world measurement data. • Fractions greater than 1 represent quantities made of whole units and fractional parts. • Whole numbers can be expressed as fractions, and some fractions are equivalent to whole numbers. • Understanding fraction location and distance on a number line helps us compare and find equivalent fractions.

New Jersey Student Learning Standards	Student Learning Objectives	Practices
3.NF.A.1 Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b. **3.MD.B.4 Generate** measurement data by measuring lengths using rulers marked with halves and fourths of an	Topic A: Students will be able to: • Partition a whole into equal parts and name the fractional unit. • Partition different wholes into fractional units concretely.	• Make sense of problems and persevere in solving them

inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters. **3.G.A.2 Partition** shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.	• Partition a whole into fractional units by folding fraction strips. • Partition a whole into fractional units pictorially and identify the unit fraction. • Partition a whole into fractional units and write fractions in fraction form. Topic B: Students will be able to: • Build non-unit fractions less than 1 from unit fractions concretely. • Identify and represent a whole as two parts: a unit fraction and a non-unit fraction. • Identify and represent a whole as two non-unit fractions. • Compare unit fractions by reasoning about their size concretely. • Compare non-unit fractions less than 1 with the same numerator by using tape diagrams.Topic C: • Students will be able to: Locate fractions from 0 to 1 on a number line by using fraction tiles. • Represent fractions from 0 to 1 on a number line. • Identify equivalent fractions from 0 to 1 with tape diagrams and on number lines. • Recognize that equivalent fractions share the same location on a number line. • Identify fractions on a ruler as numbers on a number line. • Measure lengths and record data on a line plot. Topic D: Students will be able to: • Represent fractions greater than 1 on a number line and identify fractions equivalent to whole numbers. • Compare fractions with like units by using a number line.	• Reason abstractly and quantitatively • Construct viable arguments and critique the reasoning of others • Model with mathematics

	• Compare fractions with unlike units but the same numerator by using number lines. • Compare fractions with related units by using a number line. • Compare various fractions by representing them on number lines. Topic E: Students will be able to: • Identify fractions equivalent to whole numbers by using number lines. • Reason to find fractions equivalent to whole numbers by using patterns and number lines • Generate equivalent fractions greater than 1 by using a number line. • Express whole numbers as fractions with a denominator of 1. • Create a ruler with 1-inch, half-inch, and quarter-inch intervals	

Interdisciplinary Connections

2020 Career Readiness, Life Literacies, and Key Skills

9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
9.4.5.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1).
9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.
9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).

Unit 5: Core Unit Content

Vocabulary	*Key Concepts*
❏ eighths ❏ equivalent ❏ Fifths ❏ fraction form ❏ fraction greater than 1 ❏ fractional unit ❏ Ninths ❏ Sixths ❏ Tenths ❏ unit fraction	❏ Topic A: Partition a Whole Into Equal Parts ❏ Topic B: Unit Fractions and Their Relationship to the Whole ❏ Topic C: Fractions on the Number Line ❏ Topic D: Comparing Fractions ❏ Topic E: Equivalent Fractions

Unit 5: Instructional Materials & Resources	
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Unit 5: Assessments

Formative assessments:

- Exit Tickets and Sprints

Summative Assessments:

- Mid-Module Assessment for Module 5
- End of the Unit Assessment for Module 5

Alternative Assessments:

- Design Projects
- Teacher Observations/Small Group Work

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- Reflective Journals

Unit 5: Accommodations & Modifications

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Modifications & Accommodations Menu

Unit 6

Multiplication and Area	Pacing: 6 weeks
Unit Summary: In this unit, students develop measurement and problem-solving skills by telling time and solving time interval problems in real-world contexts. They analyze attributes of two-dimensional figures and apply problem-solving strategies to find perimeter. Students also collect, organize, and display data using graphs to interpret and communicate information.	
Essential Questions: ● How can number lines and counting patterns help us tell time and solve time interval problems? ● How do attributes define, classify, and compose two-dimensional shapes? ● What is perimeter, and how can it be measured and used to solve real-world problems? ● How are area and perimeter related? ● How can data be collected, represented, and interpreted to answer questions? ● How does understanding place value and operation fluency support problem solving? ●	**Enduring Understandings:** ● Number lines and counting patterns represent the passage of time and help us determine start times, end times, and elapsed time. ● Two-dimensional shapes are defined by their attributes, and those attributes can be used to classify, compare, and compose new shapes. ● Perimeter is the total distance around a shape and can be measured using appropriate tools to solve real-world problems. ● Area and perimeter are related but measure different attributes of a shape, and changes to one do not always result in changes to the other. ● Data can be collected, organized, and represented in graphs and line plots to analyze information and answer questions. ● Understanding place value and fluency with operations allows us to reason efficiently and solve problems accurately across mathematical contexts.

New Jersey Student Learning Standards	Student Learning Objectives	Practices
3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. **2.MD.C.7 Tell** and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m. **2.G.A.1 Recognize** and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. **3.MD.A.1 Tell** and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram. **3.MD.B.3 Draw** a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. **3.MD.B.4 Generate** measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters. **3.MD.D.8 Solve** real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters. **3.G.A.1**Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize	Topic A: Students will be able to: ● Relate skip-counting by fives on the clock to telling time on the number line. ● Count by fives and ones on the number line as a strategy for telling time to the nearest minute on the clock. ● Solve time word problems where the end time is unknown. ● Solve time word problems where the start time is unknown. ● Solve time word problems where the change in time is unknown. ● Solve time word problems and use time data to create a line plot. Topic B: Students will be able to: ● Compare and classify quadrilaterals. ● Compare and classify other polygons. ● Draw polygons with specified attributes. ● Reason about composing polygons by using tetrominoes. ● Reason about composing polygons by using tangrams Topic C: Students will be able to: ● Decompose quadrilaterals to understand perimeter as the boundary of a shape. ● Measure side lengths in whole-number units to determine the perimeters of polygons. ● Recognize perimeter as an attribute of shapes and solve problems with unknown measurements.	● Make sense of problems and persevere in solving them ● Reason abstractly and quantitatively ● Construct viable arguments and critique the reasoning of others ● Model with mathematics

rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.	• Solve problems to determine the perimeters of rectangles with the same area. • Solve problems to determine the areas of rectangles with the same perimeter. • Solve real-world problems involving perimeter and unknown measurements by using all four operations. Topic D: Students will be able to: • Measure the perimeter of various circles to the nearest quarter inch by using string. • Record measurement data in a line plot. • Create and analyze a line plot for measurement data to the nearest half unit and quarter unit. • Generate categorical data and represent it by using a scaled picture graph. • Solve problems by creating scaled picture graphs and scaled bar graphs. • Organize, count, and represent a collection of objects. • Fluently multiply and divide within 100 and add and subtract within 1,000.	

Interdisciplinary Connections

2020 Career Readiness, Life Literacies, and Key Skills

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9.4.5.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1).
9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.
9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).

Unit 6: Core Unit Content

Vocabulary	*Key Concepts*
❏ diagonal ❏ measurement data ❏ perimeter ❏ regular polygon ❏ scaled picture graph	❏ Topic A: Tell Time and Solve Time Interval Questions ❏ Topic B: Attributes of Two-Dimensional Figures ❏ Topic C: Problem Solving and Perimeter ❏ Topic D: Collecting and Displaying Data

Unit 6: Instructional Materials & Resources

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Unit 6: Assessments

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Summative Assessments:

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Unit 6: Accommodations & Modifications

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Modifications & Accommodations Menu