Unit 2: Multiplication and Division

Content Area: **Template**
Course(s):
Time Period: **Full Year**
Length: **Full Year**
Status: **Published**

UNIT RATIONALE

Students apply their understanding of models for multiplication (equal-sized groups, arrays, area models), place value, and properties of operations, in particular the distributive property, as they develop, discuss, and use efficient, accurate, and generalizable methods to compute products of multi-digit whole numbers. Depending on the numbers and the context, students select and accurately apply appropriate methods to estimate or mentally calculate products. They develop fluency with efficient procedures for multiplying whole numbers; understand and explain why the procedures work based on place value and properties of operations; and use them to solve problems. Students apply their understanding of models for division, place value, properties of operations, and the relationship of division to multiplication as they develop, discuss, and use efficient, accurate, and generalizable procedures to find quotients involving multi-digit dividends. They select and accurately apply appropriate methods to estimate and mentally calculate quotients, and interpret remainders based upon the context.

Students demonstrate an understanding of the concept of area as the space that a two-dimensional figure covers. Through experiences with unit squares, they develop the understanding that the area of a rectangle is the product of its side lengths, or length and width. Students have had very little exposure to formulas, so the area formula, A = l x w, is one of the first formulas that they will understand and apply. They understand the formula as a generalized equation that shows the relationship between three attributes, and they will understand that l, w, and A represent actual values. Students identify rectangles in real world problems and know how to find the area given the length and width. In addition, they will find a dimension given the other dimension and area, and they will find the area of combined rectangles. This early experience in understanding and applying a simple formula helps students to understand the concept of variables and formulas, which they will continue to expand on as they progress in mathematics.

ESSENTIAL QUESTIONS

- Module 3: How do we interpret and solve problems?
- Module 5: How do we multiply by 1-digit numbers?
- Module 6: How do we understand division and divide by 1-digit numbers?
- Module 8: How do we multiply by 2-digit numbers?
- Module 9: How do we use multiplication to find area?

*Lessons from Modules 4 and 7 have been included in other modules or omitted. See Reflections section at the bottom for additional information.

STANDARDS

NEW JERSEY STUDENT LEARNING STANDARDS: CAREER READINESS, LIFE LITERACIES AND KEY SKILLS

CAEP.9.2.4.A.4	Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.

NEW JERSEY STUDENT LEARNING STANDARDS: COMPUTER SCIENCE AND DESIGN THINKING

CS.3-5.8.1.5.DA.1	Collect, organize, and display data in order to highlight relationships or support a claim.

NEW JERSEY STUDENT LEARNING STANDARDS: CONTENT AREA

MATH.4.OA.A.1	Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
MATH.4.OA.A.2	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
MATH.4.OA.A.3	Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.
MATH.4.NBT.A.3	Use place value understanding to round multi-digit whole numbers to any place.
MATH.4.NBT.B.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply 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.
MATH.4.NBT.B.6	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area model.
MATH.4.M.A.3	Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

PRE-ASSESSMENTS

Prior to starting each module, have students complete the Into Math “Are You Ready?” diagnostic

assessment (perhaps as an independent center activity or as a Morning Meeting activity). Form B of the module test can be given as a pre-assessment the first day of the module. Use pre-assessment data to diagnose prerequisite mastery, identify intervention needs, and modify or set up leveled acceleration groups. Use the “Data-Driven Intervention” chart for each diagnostic assessment, as well as data from the Form B test and standards data from the benchmark assessment, to identify intervention resources for each concept/skill.

- Module 3: Into Math, pg. 52 and Module 3 Test Form B (answer key, pg. 74A TE)
- Module 5: Into Math, pg. 100
- Module 6: Into Math, pg. 132 and Module 6 Test Form B (omit #12 and add #2, 3, 5, and 12 from Module 7 Form B)
- Module 7: Into Math, pg. 160
- Module 8: Into Math, pg. 184
- Module 9: Into Math, pg. 218

INSTRUCTIONAL PLAN

MODULE 3

DAY 1

Module 3, Day 1

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to set goals based on pre-assessment data.
Student Learning Strategies	• Challenging goals (0.59) • Assessment-capable visible learner (1.44) •

	Study skills (0.49)
Success Criteria	I can: • Identify the types of questions that I got correct and incorrect. • Set a goal. • List study skills steps to reach my goal.
Formative Assessment (drives instructional decisions)	• Pre-Assessment • Goal Setting Worksheet
Activities and Resources	• Pre-Assessment (Module 3 Test Form B print or online) • Self-Assessment and Goal Setting • Multiplicative Comparison Problems Learning Progression
Suggested Modifications	See Suggested Modifications list.

DAY 2

Module 3: Day 2

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to represent multiplicative comparison statements with visual models. 4.OA.A.1
Student Learning Strategies	• Notice and Wonder

	• MP4: Model with Mathematics: Visual model (cubes, drawing and/or diagrams)
Success Criteria	I can: • Define interpret, represent, multiplicative comparison and visual model. • Use cubes, pictures, or diagrams to represent multiplicative comparisons, situations that involve "times as many as."
Formative Assessment (drives instructional decisions)	• "Times as Many" Activity • Cool Down Worksheet
Activities and Resources	Multiplicative Comparison Problems Learning Progression Illustrative Mathematics Lesson 5.1 (Teacher Guide, Lesson Slides, and Student Lesson Worksheets) • Warm-up: Notice and Wonder-Compare Cubes • Activity 1: Twice as Many • Activity 2: Times as Many • Activity 3: Make *n* Times as Many • Lesson Synthesis • Cool Down
Suggested Modifications	See Suggested Modifications list.

MA.4.OA.A.1	Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.

DAY 3

Module 3: Day 3

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to interpret a multiplication equation as a multiplicative comparison. 4.OA.A.1
Student Learning Strategies	• MP4: Model with Mathematics: Visual model (cubes, drawing and/or diagrams) • Match equation with multiplicative comparison statements and diagram activity
Success Criteria	I can: • Write an equation to represent a multiplicative comparison statement. • Interpret a multiplication equation by matching it with multiplicative comparison statements and a diagram.
Formative Assessment (drives instructional decisions)	• Matching Activity • Cool Down Worksheet
Activities and Resources	Multiplicative Comparison Problems Learning Progression Illustrative Mathematics Lesson 5.2 (Teacher Guide, Lesson Slides, and Student Lesson Worksheets) • Warm-up: How Many Do You See-Times as Many • Activity 1: Represent "Times as Many" • Activity 2: Diagrams to Solve Multiplicative Comparison Problems • Lesson Synthesis • Cool Down
Suggested Modifications	See Suggested Modifications list.

MA.4.OA.A.1	Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.

DAY 4

Module 3: Day 4

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to represent, interpret, and solve word problems involving multiplicative comparisons by using visual models and equations.
Student Learning Strategies	MP4: Model with Mathematics (use a visual model to represent the problem)
Success Criteria	I can: • Represent a multiplicative comparison statement using a visual model and/or an equation. • Interpret a multiplicative comparison statement using an equation. • Solve word problems involving multiplicative comparisons by using visual models and equations.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.53-54) • Check Understanding (pg. 55 SE) • Exit Ticket Projection or Put It In Writing (pg. 56 TE)
Activities and Resources	Multiplicative Comparison Problems Learning Progression Into Math Lesson 3.1: Explore Multiplicative Comparisons (pgs. 53A-56B TE, pgs. 53-56 SE)

	• Warm-Up • Spark Your Learning • Build Understanding • Check Understanding • Differentiation Options (Small Groups, Own Your Own problems, Math Centers, Waggle) • Wrap-Up and Homework
Suggested Modifications	See Suggested Modifications list.

MA.4.OA.A.1	Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
MA.4.OA.A.2	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

DAY 5

Module 3: Day 5

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to distinguish between and represent a multiplicative comparison and an additive comparison.
Student Learning Strategies	MP4: Model with Mathematics (use a visual model and/or equation to represent the problem)
Success Criteria	I can: • Define additive comparison. • Identify a comparison problem as multiplicative (equal groups) or additive (unequal groups/groups of different sizes). • Represent multiplicative and additive comparison problems by using visual models and equations.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.57-58)

	• Check Understanding (pg. 59 SE) • Exit Ticket Projection or Put It In Writing (pg. 60 TE)
Activities and Resources	Multiplicative Comparison Problems Learning Progression Into Math Lesson 3.2: Distinguish Between Multiplicative and Additive Comparisons (pgs. 57A-60B TE, pgs. 57-60 SE) • Warm-Up • Spark Your Learning • Build Understanding • Check Understanding • Differentiation Options (Small Groups, Own Your Own problems, Math Centers, Waggle) • Wrap-Up and Homework
Suggested Modifications	See Suggested Modifications list.

MA.4.OA.A.2	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

DAY 6

Module 3: Day 6

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to solve word problems involving multiplicative and additive comparisons using equations.
Student Learning Strategies	• MP7: Use Structure (draw a box around the question and underline information that will help solve.) • MP4: Model with Mathematics (write an equation

	to model the problem)
Success Criteria	I can: • Identify a comparison problem as multiplicative (equal groups) or additive (unequal groups/groups of different sizes). • Solve multiplicative and additive comparison problems by using equations.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.65-66) • Check Understanding (pg. 66 SE) • Exit Ticket Projection or Put It In Writing (pg. 68 TE)
Activities and Resources	Multiplicative Comparison Problems Learning Progression Into Math Lesson 3.4: Use Comparisons to Solve Problem Situations (pgs. 65A-68B TE, pgs. 65-68 SE) • Warm-Up • Spark Your Learning • Build Understanding • Check Understanding • Differentiation Options (Small Groups, Own Your Own problems, Math Centers, Waggle) • Wrap-Up and Homework
Suggested Modifications	See Suggested Modifications list.

MA.4.OA.A.2	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

DAY 7

Module 3, Day 7

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to divide to solve word problems involving multiplicative comparisons by using visual models and equations.
Student Learning Strategies	• MP4: Model with Mathematics (use a visual mode and/or equation to represent the problem)
Success Criteria	I can: • Define inverse operation and variable. • Represent a multiplicative comparison statement using a visual model and/or an equation with a variable. • Use the inverse operation (division) to solve the problem.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.61-62) • Check Understanding (pg. 62 SE) • Exit Ticket Projection or Put It In Writing (pg. 64 TE)
Activities and Resources	Multiplicative Comparison Problems Learning Progression Into Math Lesson 3.3: Use Division to Solve Multiplicative Comparison Problems (pgs. 61A-64B TE, pgs. 61-64 SE) • Warm-Up • Spark Your Learning • Build Understanding • Check Understanding • Differentiation Options (Small Groups, Own Your

	Own problems, Math Centers, Waggle) • Wrap-Up and Homework
Suggested Modifications	See Suggested Modifications list.

MA.4.OA.A.2	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

DAY 8

Module 3, Day 8

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to solve multi-step word problems using any operation.
Student Learning Strategies	• MP5: Use Tools (use a visual model) • MP4: Model with Mathematics (write an equation with a variable to model the problem)
Success Criteria	I can: • Use a bar model to represent the problem. • Use a variable, numbers, and operation symbols to write an equation for each step in the problem.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.69-70) • Check Understanding (pg. 70 SE) • Exit Ticket Projection or Put It In Writing (pg. 72 TE)

Activities and Resources	Multiplicative Comparison Problems Learning Progression Into Math Lesson 3.5: Solve Multi-step Problems with Multiplication and Division (pgs. 69A-72B TE, pgs. 69-72 SE) • Warm-Up • Spark Your Learning • Build Understanding • Check Understanding • Differentiation Options (Small Groups, Own Your Own problems, Math Centers, Waggle) • Wrap-Up and Homework
Suggested Modifications	See Suggested Modifications list.

MA.4.OA.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.

DAY 9

Module 3, Day 9

Student Learning Intentions (SLI) WALT: (We are learning to…)	Module 3 Review
Student Learning Strategies	• Practice testing (0.46) • Help seeking (0.72) • Deliberate practice (0.79)
Success Criteria	I can: • Use the Multiplicative Comparison Problems Learning Progression and review data to identify the concepts and skills I understand and those

	that I need to review. • Determine the type of help that I need. • Practice with a focus on improving my understanding of specific concepts and skills.
Formative Assessment (drives instructional decisions)	• Module 3 Review (pgs. 73-74) or online • Reteach Worksheets
Activities and Resources	Multiplicative Comparison Problems Learning Progression Paper version: Give for homework to allow time to score. Use the answer keys on pgs. 73-74 TE to score students' Reviews. Online Version: Give on Day 8 and scores will be available. Use the data-driven instruction charts on pgs. 73-74 or the online Standards Analysis Reports to determine small groups.
Suggested Modifications	See Suggested Modifications list.

MA.4.OA	Operations and Algebraic Thinking
MA.4.OA.A	Use the four operations with whole numbers to solve problems.
MA.4.OA.A.1	Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
MA.4.OA.A.2	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
MA.4.OA.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.

MODULE 5

DAY 1

Module 5: Day 1

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to set goals based on pre-assessment data.
Student Learning Strategies	• Challenging goals (0.59) • Assessment-capable visible learner (1.44) • Study skills (0.49)
Success Criteria	I can: • Identify the types of questions that I got correct and incorrect. • Set a goal. • List study skills steps to reach my goal.
Formative Assessment (drives instructional decisions)	• Pre-Assessment • Goal Setting Worksheet
Activities and Resources	• Pre-Assessment (Module 5 Test Form B) • Goal Setting • Multiplication Learning Progression
Suggested Modifications	See Suggested Modifications list.

DAY 2

Module 5: Day 2

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to use basic facts, patterns, and place value to multiply a multiple of 10 by a 1-digit number.
Student Learning Strategies	• MP1: Reason (apply place value knowledge to problems) • MP7: Use Structure (use place value knowledge to notice patterns)
Success Criteria	I can: • Rename numbers. • Use base-ten blocks to show a multiplication problem. • Use basic facts to multiply.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.77-79) • Check Understanding (pg. 79 SE) • Exit Ticket Projection or Put It In Writing (pg. 80 TE)
Activities and Resources	Multiplication Learning Progression Into Math Lesson 4.1: Explore Multiplication Patterns with Tens, Hundreds, and Thousands (pgs. 77A-80E TE, pgs. 77-80 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.NBT.B.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply 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.

DAY 3

Module 5: Day 3

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to represent multiplication calculations using equations, rectangular arrays, or models.
Student Learning Strategies	• MP7: Use Structure (use base-ten blocks to represent numbers) • MP4: Model with Mathematics (represent multiplication calculations using equations, arrays or models)
Success Criteria	I can: • Define equation, rectangular array, and area model. • Represent a multiplication calculation using an equation. • Represent a multiplication calculation using rectangular arrays. • Represent a multiplication calculation using models (area, base-ten blocks or quick picture)
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.101-103) • Check Understanding (pg. 103 SE) • Exit Ticket Projection or Put It In Writing (pg. 104 TE)
Activities and Resources	Multiplication Learning Progression Into Math Lesson 5.1: Represent Multiplication (pgs. 101A-104B TE, pgs. 101-104 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.NBT.B.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply 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.

DAY 4

Module 5: Day 4

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to multiply using area models and the Distributive Property.
Student Learning Strategies	• MP4: Model with Mathematics (represent multiplication problems using arrays or models)
Success Criteria	I can: • Define Distributive Property. • Draw a rectangle to show a multiplication calculation. • Label the rectangle as a combination of two smaller rectangles (Hint: think of a sum for the greater factor). • Find the product of each smaller rectangle. • Find the sum of the products.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.105-106) • Check Understanding (pg. 107 SE) • Exit Ticket Projection or Put It In Writing (pg. 108 TE)
Activities and Resources	Multiplication Learning Progression Into Math Lesson 5.2: Use Area Models and the Distributive Property to Multiply (pgs. 105A-108B TE pgs. 105-108 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.NBT.B.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply 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.

DAY 5

Module 5: Day 5

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to multiply using expanded form.

Student Learning Strategies	• MP2: Reason (use understanding of expanded form and Distributive Property to multiply) • MP7: Structure (Connect previously used visual models and related strategies to the less visual strategy used)
Success Criteria	I can: • Define partial product. • Draw an area model using expanded form, use the Distributive Property to find the product for each smaller rectangle, and find the sum of the products. • Write a number in expanded form, use the Distributive Property to write an equation to represent the multiplication calculation, multiply to find each partial product, and add to find the whole product.
Formative Assessment (drives instructional decisions)	• Turn and Talk (pg.109) • Check Understanding (pg. 111 SE) • Exit Ticket Projection or Put It In Writing (pg. 112 TE)
Activities and Resources	Multiplication Learning Progression Into Math Lesson 5.3: Multiply Using Expanded Form (pgs. 109A-112B TE, pgs. 109-112 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.NBT.B.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply 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.

DAY 6

Module 5: Day 6

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to multiply using partial products.

Student Learning Strategies	• MP2: Reason (use understanding of place value and the Distributive Property, use expanded form of a factor to find the partial products in a vertical multiplication problem)
Success Criteria	I can: • Draw an area model using expanded form, use the Distributive Property to find the partial products, and add the partial products. • Use expanded form to break apart the greater factor, multiply and record the partial products, and add the partial products.
Formative Assessment (drives instructional decisions)	• Turn and Talk (pg.113) • Check Understanding (pg. 115 SE) • Exit Ticket Projection or Put It In Writing (pg. 116 TE)
Activities and Resources	Multiplication Learning Progression Into Math Lesson 5.4: Multiply Using Partial Products (pgs. 113A-116B TE, pgs. 113-116 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.NBT.B.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply 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.

DAY 7

Module 5: Day 7

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to choose a strategy to multiply 3-digit and 4-digit numbers. (Please note: While Lesson 5.6 teaches how to multiply using the standard algorithm, this is not required until 6th grade. It is suggested that students apply strategies learned thus far to multiply 3-digit

	and 4-digit numbers using the problems in the On Your Own section on pg. 124.)
Student Learning Strategies	• MP2: Reason (apply understanding of multiplying 2-digit numbers to 3-digit and 4-digit numbers)
Success Criteria	I can: • Name the multiplication strategies learned in Module 5. • Apply strategies to multiply 2-digit numbers to multiply 3-digit and 4-digit numbers.
Formative Assessment (drives instructional decisions)	• On Your Own problems (pg. 124 SE) • Exit Ticket Projection or Put It In Writing, but omit the requirement to use the standard algorithm and replace it with "multiplication strategy." (pg. 124 TE)
Activities and Resources	Multiplication Learning Progression Into Math Lesson 5.6: Multiply 3-Digit and 4-Digit Numbers (pgs. 121A-124B TE, pgs. 121-124 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.NBT.B.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply 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.

DAY 8

Module 5: Day 8

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to use equations to solve multistep problems.
Student Learning Strategies	• MP2: Reason (identify key words in the problems and explain how they help identify operations

	need to solve the problem) • MP7: Use Structure (consider how the order in which the operations are done affects the calculations)
Success Criteria	I can: • Use the Three Reads Strategy to identify what the problem is about, determine the quantities and units, and understand the question or prompt. • Write an equation to model each step. • Use the equations to solve the problem.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs. 125-126) • Check Understanding (pg. 127 SE) • Exit Ticket Projection or Put It In Writing (pg. 128 TE)
Activities and Resources	Multiplication Learning Progression Into Math Lesson 5.7: Use Equations to Solve Multi-Step Problems (pgs. 125A-128B TE, pgs. 125-128 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.OA.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.

DAY 9

Module 5: Day 9

Student Learning Intentions (SLI) WALT: (We are learning to…)	Module 5 Review
Student Learning Strategies	• Practice testing (0.46) • Help seeking (0.72)

	• Deliberate practice (0.79)
Success Criteria	I can: • Use the Multiplication Learning Progression and review data to identify the concepts and skills I understand and those that I need to review. • Determine the type of help that I need. • Practice with a focus on improving my understanding of specific concepts and skills.
Formative Assessment (drives instructional decisions)	• Module 5 Review (pgs. 129-130) or online • Reteach Worksheets
Activities and Resources	Multiplication Learning Progression Paper version: Give for homework on Day 7 to allow time to score. Use the answer keys on pgs. 129-130 TE to score students' Reviews. Online Version: Give on Day 8 (Morning Meeting or center activity) and scores will be available immediately. Use the data-driven instruction charts on pgs. 129-130 or the online Standards Analysis Reports to determine small groups.
Suggested Modifications	See Suggested Modifications list.

MA.4.OA.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.
MA.4.NBT.B.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply 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.

MODULE 6

DAY 1

Module 6: Day 1

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to set goals based on pre-assessment data.
Student Learning Strategies	• Challenging goals (0.59) • Assessment-capable visible learner (1.44) • Study skills (0.49)
Success Criteria	I can: • Identify the types of questions that I got correct and incorrect. • Set a goal. • List study skills steps to reach my goal.
Formative Assessment (drives instructional decisions)	• Pre-Assessment • Goal Setting Worksheet
Activities and Resources	• Pre-Assessment (Module 6 Test Form B*) • *If option to use the Form B test, please omit #12 from the Module 6 Form B test and add #2, 3, 5, and 12 from the Module 7 Form B test.) • Goal Setting • Division Learning Progression
Suggested Modifications	See Suggested Modifications list.

DAY 2

Module 6: Day 2

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to use visual models and equations to represent division problems.

Student Learning Strategies	• MP2: Reason (consider how to use values to represent the situation) • MP4: Model with Mathematics (represent division with base-ten blocks and an equation)
Success Criteria	I can: • Define dividend, divisor, and quotient. • Represent a division problem with visual models (counters or tiles, base-ten blocks, or pictures). • Represent a division problem with an equation. • Solve a division problem.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.133-135) • Check Understanding (pg. 135 SE) • Exit Ticket Projection or Put It In Writing (pg. 136 TE)
Activities and Resources	Division Learning Progression Into Math Lesson 6.1 Represent Division (pgs. 133A-136B TE, pgs. 133-136 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.NBT.B.6	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

DAY 3

Module 6: Day 3

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to use visual models to identify the whole-number quotient and and remainder in a division problem.
Student Learning Strategies	• MP2: Reason (describe how the total and number in each group are related) • MP5: Tools (in an array, the dividend is the total number, the divisor is the number of equal rows,

	and the quotient is the number in each row)
Success Criteria	I can: • Define remainder. • Represent a division problem with visual models (counters or tiles, base-ten blocks, or pictures). • Identify the whole-number quotient and remainder.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.137-139) • Check Understanding (pg. 139 SE) • Exit Ticket Projection or Put It In Writing (pg. 140 TE)
Activities and Resources	Division Learning Progression Into Math Lesson 6.2: Investigate Remainders (pgs. 137A-140B TE, pgs. 137-140 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.NBT.B.6	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

DAY 4

Module 6: Day 4

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to solve a division problem and interpret the remainder.
Student Learning Strategies	• MP2: Reason (division is separating a total into equal groups) • MP6: Attend to Precision (measurements may need remainders expressed as a fraction)
Success Criteria	I can: • Represent a division problem with visual models

	and/or an equation. • Identify the four ways to interpret a remainder. • Interpret a remainder to solve a division problem.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.141-143) • Check Understanding (pg. 143 SE) • Exit Ticket Projection or Put It In Writing (pg. 144 TE)
Activities and Resources	Division Learning Progression Into Math Lesson 6.3: Interpret Remainders (pgs. 141A-144B TE, pgs. 141-144 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.OA.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.
MA.4.NBT.B.6	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

DAY 5

Module 6: Day 5

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to use basic facts, patterns, and place value to divide a multiple of 10 by a 1-digit number.
Student Learning Strategies	• MP7: Use Structure (represent the problem visually) • MP8: Use Repeated Reasoning
Success Criteria	I can: • Use base-ten blocks to represent a division problem. • Rename numbers.

	• Use basic facts to divide.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.82-83) • Check Understanding (pg. 83 SE) • Exit Ticket Projection or Put It In Writing (pg. 84 TE)
Activities and Resources	Division Learning Progression Into Math Lesson 4.2: Explore Division Patterns with Tens, Hundreds, and Thousands (pgs. 81A-84B TE, pgs. 81-84 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.NBT.B.6	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

DAY 6

Module 6: Day 6

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to solve multi-digit division problems using area models and the Distributive Property.
Student Learning Strategies	• MP2: Reason (determine different ways to break apart a dividend into two numbers that are easier to divide by the divisor) • MP7: Use Structure (consider how to use the Distributive Property to divide)
Success Criteria	I can: • Break apart a dividend into two numbers that are compatible with the divisor. • Draw an area model to represent the dividend broken into smaller parts and the divisor. • Represent the division problem with an equation and use the Distributive Property to divide.

Formative Assessment (drives instructional decisions)	• Turn and Talk (pg.109) • Check Understanding (pg. 147 SE) • Exit Ticket Projection or Put It In Writing (pg. 148 TE)
Activities and Resources	Division Learning Progression Into Math Lesson 6.4: Use Area Models and the Distributive Property to Divide (pgs. 145A-148B TE, pgs. 145-148 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.NBT.B.6	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

DAY 7

Module 6: Day 7

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to solve a division problem using repeated subtraction.
Student Learning Strategies	• MP2: Reason (identify the quantities and how they relate) • MP6: Attend to Precision (importance of organization when using repeated subtraction)
Success Criteria	I can: • Define repeated subtraction. • Start with the dividend and subtract the divisor as many times as I can. • Count the number of times I subtracted the diviso to find the whole-number quotient. • Identify any amount left over as the remainder.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.149-151) • Check Understanding (pg. 151 SE) • Exit Ticket Projection or Put It In Writing (pg. 152

	TE)
Activities and Resources	Division Learning Progression Into Math Lesson 6.5: Divide Using Repeated Subtraction (pgs. 149A-152B TE, pgs. 149-152 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.NBT.B.6	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

DAY 8

Module 6: Day 8

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to use partial quotients to divide multi-digit numbers by 1-digit numbers.
Student Learning Strategies	• MP7: Structure (write the dividend in expanded form and apply to area model) • MP8: Use Repeated Reasoning (make connections to other division strategies used)
Success Criteria	I can: • Define partial quotient. • Write the dividend in expanded form. • Draw an area model using expanded form to represent the dividend. • Divide each smaller part of the dividend to find a smaller part of the whole-number quotient, the partial quotient. • Add the partial quotients to find the whole-number quotient. • Solve a division problem using partial quotients without an area model by finding a multiple of the divisor that is less than or equal to the dividend, subtract that multiple from the dividend, keep subtracting multiples of the divisor until the remaining number is less than the divisor, and add all the partial quotients to find the whole-

	number quotient.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs. 153-155) • Check Understanding (pg. 155 SE) • Exit Ticket Projection or Put It In Writing (pg. 156 TE)
Activities and Resources	Division Learning Progression Into Math Lesson 6.6: Use Partial Quotients (pgs. 153A-156B TE, pgs. 153-156 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.NBT.B.6	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

DAY 9

Module 6: Day 9

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to solve multistep word problems involving multiplication, division, and interpretation o remainders.
Student Learning Strategies	• MP4: Model with Mathematics (write equations to model each step of a multistep problem)
Success Criteria	I can: • Use the Three Reads Strategy to identify what the problem is about, determine the quantities and units, and understand the question or prompt. • Write an equation to model each step. • Use the equations to solve the problem.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.175-176) • Check Understanding (pg. 176 SE) • Exit Ticket Projection or Put It In Writing (pg. 178

	TE)
Activities and Resources	Division Learning Progression Into Math Lesson 7.4: Solve Multistep Multiplication and Division Problems (pgs. 175A-178B TE, pgs. 175-178 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.OA.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.

DAY 10

Module 6: Day 10

Student Learning Intentions (SLI) WALT: (We are learning to…)	Module 6 Review
Student Learning Strategies	• Practice testing (0.46) • Help seeking (0.72) • Deliberate practice (0.79)
Success Criteria	I can: • Use the Division Learning Progression and review data to identify the concepts and skills I understand and those that I need to review. • Determine the type of help that I need. • Practice with a focus on improving my understanding of specific concepts and skills.
Formative Assessment (drives instructional decisions)	• Module 6 Review (pgs. 157-158) or online • Reteach Worksheets
Activities and Resources	Division Learning Progression

	Paper version: Give for homework on Day 7 to allow time to score. Use the answer keys on pgs. 157-158 TE to score students' Reviews. Online Version: Give on Day 8 (Morning Meeting or center activity) and scores will be available immediately. Use the data-driven instruction charts on pgs. 157-158 or the online Standards Analysis Reports to determine small groups.
Suggested Modifications	See Suggested Modifications list.

MA.4.OA.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.
MA.4.NBT.B.6	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

MODULE 8

DAY 1

Module 8: Day 1

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to set goals based on pre-assessment data.
Student Learning Strategies	• Challenging goals (0.59) • Assessment-capable visible learner (1.44) • Study skills (0.49)
Success Criteria	I can: • Identify the types of questions that I got correct and incorrect. • Set a goal.

	• List study skills steps to reach my goal.
Formative Assessment (drives instructional decisions)	• Pre-Assessment • Goal Setting Worksheet
Activities and Resources	• Pre-Assessment (Module 8 Test Form B) • Goal Setting • 2-Digit Multiplication Learning Progression
Suggested Modifications	See Suggested Modifications list.

DAY 2

Module 8: Day 2

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to use different strategies to multiply with multiples of ten.
Student Learning Strategies	• MP7: Structure (use place value to find products • MP7: Structure (name numbers that are easier to work with when multiplying)
Success Criteria	I can: • Use place value and expanded form to find a product. • Use the Associative Property of Multiplication to find a product. • Use the “half and double” strategy to find a product.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.185-186) • Check Understanding (pg. 187 SE) • Exit Ticket Projection or Put It In Writing (pg. 188 TE)

Activities and Resources	2-Digit Multiplication Learning Progression Into Math Lesson 8.1: Multiply with Tens (pgs. 185A-188B TE, pgs. 185-188 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.NBT.B.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply 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.

DAY 3

Module 8: Day 3

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to estimate products using a variety of rounding methods.
Student Learning Strategies	• MP7: Structure (use place value to round) • MP7: Structure (use front-end estimation) • MP7: Structure (compatible numbers makes mental calculations easier to do)
Success Criteria	I can: • Define estimate, reasonable, compatible numbers and front-end estimation. • Round factors to the nearest ten and then use basic facts to find the estimate. • Use front-end estimation to estimate the product (identify the place value of the front digit of each factor, circle the tens, write the estimated factors changing all of the other digits to zero, find the product). • Compare estimates. • Explain whether an estimated product is reasonable. • Use compatible numbers to round factors and find the product.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.189-191) • Check Understanding (pg. 192 SE)

	• Exit Ticket Projection or Put It In Writing (pg. 194 TE)
Activities and Resources	2-Digit Multiplication Learning Progression Into Math Lesson 8.2: Estimate Products (pgs. 189A-194B TE, pgs. 189-194 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.OA.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.
MA.4.NBT.A.3	Use place value understanding to round multi-digit whole numbers to any place.

DAY 4

Module 8: Day 4

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to use area models and partial products to multiply two 2-digit numbers.
Student Learning Strategies	• MP4: Model with Mathematics (identify where each factor is represented on the area model) • MP2: Reason (compare the different representations used to show the problem)
Success Criteria	I can: • Use an area model to represent a 2-digit by 2-digi multiplication problem (use expanded form to break apart each factor into tens and ones, label the area model with the factors, use the Distributive Property to find the partial products, add the partial products to find the whole product) • Write and solve an equation for an area model.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.195-196) • Check Understanding (pg. 197 SE) • Exit Ticket Projection or Put It In Writing (pg. 198

	TE)
Activities and Resources	2-Digit Multiplication Learning Progression Into Math Lesson 8.3: Relate Area Models and Partial Products (pgs. 195A-198B TE, pgs. 195-198 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.NBT.B.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply 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.

DAY 5

Module 8: Day 5

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to multiply two 2-digit numbers using partial products.
Student Learning Strategies	• MP7: Use Structure (explain each step for multiplying numbers using partial products)
Success Criteria	I can: • Multiply the tens by the tens. • Multiply the ones by the tens. • Multiply the tens by the ones. • Multiply the ones by the ones. • Add the partial products to find the whole product.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.199-200) • Check Understanding (pg. 200 SE) • Exit Ticket Projection or Put It In Writing (pg. 202 TE)
Activities and Resources	2-Digit Multiplication Learning Progression

	Into Math Lesson 8.4: Multiply Using Partial Products (pgs. 199A-202B TE, pgs. 199-202 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.NBT.B.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply 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.

DAY 6

Module 8: Day 6

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to fluently multiply two 2-digit numbers using a selected strategy*. *Lesson 8.5 was omitted because it focuses on using the standard algorithm, which is not in the 4th grade standards. Revise the "Step It Out" problem on pg. 208 by encouraging the use of another strategy.
Student Learning Strategies	• MP7: Use Structure (explain each step when multiplying)
Success Criteria	I can: • Name the strategies learned to multiply two 2-digi numbers. • Select a strategy to fluently multiply two 2-digit numbers.
Formative Assessment (drives instructional decisions)	• Turn and Talk (pg.207) • Check Understanding (pg. 208 SE) • Exit Ticket Projection or Put It In Writing (pg. 210 TE)
Activities and Resources	2-Digit Multiplication Learning Progression Into Math Lesson 8.6: Choose a Multiplication Strategy (pgs. 207A-210B TE, pgs. 207-210 SE)

Suggested Modifications	See Suggested Modifications list.

MA.4.NBT.B.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply 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.

DAY 7

Module 8: Day 7

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to solve multistep word problems and assess reasonableness.
Student Learning Strategies	• MP4: Model with Mathematics (write an equation to represent each step of the problem)
Success Criteria	I can: • Use the Three Reads Strategy to identify what the problem is about, determine the quantities and units, and understand the question or prompt. • Write an equation to model each step. • Use the equations to solve the problem. • Use estimation to check the reasonableness of my answer.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pg. 22) • Check Understanding (pg. 212 SE) • Exit Ticket Projection or Put It In Writing (pg. 214 TE)
Activities and Resources	2-Digit Multiplication Learning Progression Into Math Lesson 8.7: Solve Multistep Problems and Assess Reasonableness (pgs. 211A-214B TE, pgs. 211-214 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.OA.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be

	interpreted. 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.
MA.4.NBT.B.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply 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.

DAY 8

Module 8: Day 8

Student Learning Intentions (SLI) WALT: (We are learning to…)	Module 8 Review
Student Learning Strategies	• Practice testing (0.46) • Help seeking (0.72) • Deliberate practice (0.79)
Success Criteria	I can: • Use the 2-Digit Multiplication Learning Progression and review data to identify the concepts and skills I understand and those that I need to review. • Determine the type of help that I need. • Practice with a focus on improving my understanding of specific concepts and skills.
Formative Assessment (drives instructional decisions)	• Module 8 Review (pgs. 215-216) or online • Reteach Worksheets
Activities and Resources	2-Digit Multiplication Learning Progression Paper version: Give for homework on Day 6 to allow time to score. Use the answer keys on pgs. 215-216 TE to score students' Reviews. Online Version: Give on Day 7 (Morning Meeting or center activity) and scores will be available immediately. Use the data-driven instruction charts on pgs. 215-216 or the online Standards Analysis Reports to

	determine small groups.
Suggested Modifications	See Suggested Modifications list.

MA.4.OA.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.
MA.4.NBT.A.3	Use place value understanding to round multi-digit whole numbers to any place.
MA.4.NBT.B.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply 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.

MODULE 9

DAY 4

Module 9: Day 4

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to find the area of a figure made of combined rectangles.
Student Learning Strategies	• MP2: Reason (identify the right angles in the figure and explain why that's important) • MP6: Attend to Precision (identify the dimensions of the sides)
Success Criteria	I can: • Use the area formula to find the area of each rectangle. • Add or subtract the areas to find the whole area.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.223-224) • Check Understanding (pg. 224 SE) • Exit Ticket Projection or Put It In Writing (pg. 226 TE)

Activities and Resources	Area Learning Progression Into Math Lesson 9.2: Find the Area of Combined Rectangles (pgs. 223A-226B TE, pgs. 223-226 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.MD.A.3	Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

DAY 3

Module 9: Day 3

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to find the unknown measure of a rectangle given the length of one side and the area or perimeter.
Student Learning Strategies	• MP5: Use Tools (connect the information given in the world problem with the values from the perimeter formula) • MP7: Use Structure (connect the area formula with the information given in the world problem)
Success Criteria	I can: • Identify the unknown that needs to be found. • Use the perimeter or area formula to find the unknown.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs.227-228) • Check Understanding (pg. 228 SE) • Exit Ticket Projection or Put It In Writing (pg. 230 TE)
Activities and Resources	Area Learning Progression Into Math Lesson 9.3: Find Unknown Measures (pgs. 227A-230B TE, pgs. 227-230 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.MD.A.3	Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

DAY 2

Module 9: Day 2

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to find the area of a rectangle by using the formula for area.
Student Learning Strategies	• MP2: Reason (identify what each part of the area formula represents) • MP6: Attend to Precision (identify and understanc the length and the width)
Success Criteria	I can: • Explain what it means to find the area of a flat surface. • Explain the relationship between the length and width of a rectangle and the area. • Use the area formula to find the area of a rectangle.
Formative Assessment (drives instructional decisions)	• Turn and Talks (pgs. 219, 221) • Check Understanding (pg. 221 SE) • Exit Ticket Projection or Put It In Writing (pg. 222 TE)
Activities and Resources	Area Learning Progression Into Math Lesson 9.1: Apply the Area Formula to Rectangles (pgs. 219A-222B TE, pgs. 219-22 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.MD.A.3	Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

DAY 1

Module 9: Day 1

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to set goals based on pre-assessment data.
Student Learning Strategies	• Challenging goals (0.59) • Assessment-capable visible learner (1.44) • Study skills (0.49)
Success Criteria	I can: • Identify the types of questions that I got correct and incorrect. • Set a goal. • List study skills steps to reach my goal.
Formative Assessment (drives instructional decisions)	• Pre-Assessment • Goal Setting Worksheet
Activities and Resources	• Pre-Assessment (Module 9 Test Form B) • Goal Setting • Area Learning Progression
Suggested Modifications	See Suggested Modifications list.

DAY 5

Module 9: Day 5

Student Learning Intentions (SLI) WALT: (We are learning to…)	We are learning to find the area of a rectangular region.
Student Learning Strategies	• MP5: Use Tools (connect the photograph with the diagram) • MP7: Use Structure (compare the diagram for this problem with the diagram for the previous problem)
Success Criteria	I can:

	• Use the Three Reads Strategy to identify what the problem is about, determine the quantities and units, and understand the question or prompt. • Write an equation to model each step. • Use the equations to solve the problem.
Formative Assessment (drives instructional decisions)	• Turn and Talk (pg. 231) • Check Understanding (pg. 232 SE) • Exit Ticket Projection or Put It In Writing (pg. 234 TE)
Activities and Resources	Area Learning Progression Into Math Lesson 9.4: Solve Area Problems (pgs. 231A-234B TE, pgs. 231-234 SE)
Suggested Modifications	See Suggested Modifications list.

MA.4.MD.A.3	Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

DAY 6

Module 9: Day 6

Student Learning Intentions (SLI) WALT: (We are learning to…)	Module 9 Review
Student Learning Strategies	• Practice testing (0.46) • Help seeking (0.72) • Deliberate practice (0.79)
Success Criteria	I can: • Use the Area Learning Progression and review data to identify the concepts and skills I understand and those that I need to review. • Determine the type of help that I need. • Practice with a focus on improving my understanding of specific concepts and skills.

Formative Assessment (drives instructional decisions)	• Module 9 Review (pgs. 235-236) or online • Reteach Worksheets
Activities and Resources	Area Learning Progression Paper version: Give for homework on Day 4 to allow time to score. Use the answer keys on pgs. 235-236 TE to score students' Reviews. Online Version: Give on Day 4 (Morning Meeting or center activity) and scores will be available immediately. Use the data-driven instruction charts on pgs. 235-236 or the online Standards Analysis Reports to determine small groups.
Suggested Modifications	See Suggested Modifications list.

MA.4.MD.A.3	Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

REFLECTIONS

Module 3

The first two lessons of this Module are from Illustrative Mathematics. They were added to provide simpler instruction on representing and interpreting multiplicative comparisons and equations. How did they work? Should we keep/modify/omit next year? LC, 8/22

Module 4

The lessons in Module 4 were broken up and included in other Modules in order to better support the learning progressions for multiplication and division. Lessons 4.1 and 4.3 were included in Module 5, Lessons 4.2 and 4.4 were included in Module 6, and Lesson 4.5 was abandoned. Did this work or should Module 4 remain intact for next year? LC, 8/22

Module 5

Other 4th grade math programs/resources start their multiplication units with instruction on factors and multiples and/or on area to build conceptual understanding of area models (and to connect measurement standards with the operation used to solve). Given the changes made to Modules 3, 4, 6, and 7, we decided to not move the lessons on factors, multiples, and area from other modules

to Module 5. However, do we think it would make sense to move those lessons to the beginning of Module 5 next year? Additionally, Lesson 5.5 was omitted because it focuses on the standard algorithm, which is not required in the 4th grade standards. Using the standard alogorithm to multiply first appears in the 5th grade standards. Lesson 5.6 was likewise modified to focus on using the multiplication strategies learned thus far, not on the standard algorithm. LC, 8/22

Module 6

Lesson 7.4 was added to the end of Module 6. LC, 8/22

Module 7

Lessons 7.1, 7.2, and 7.3 were omitted because they focus on the standard algorithm, which is not required in the 4th grade standards. Using the standard algorithm to divide first appears in the 6th grade standards. Lesson 7.4 was added at the end of Module 6 as it focuses on multi-step problem solving. LC, 8/22

Module 8

Lesson 8.5 was omitted because it focuses on the standard algorithm, which is not required in the 4th grade standards. Using the standard algorithm to multiply first appears in the 5th grade standards. LC, 8/22

Module 9

Unclear why "base" and "height" are introduced as vocabulary in Lesson 9.1, particularly because this is one of students' first experiences with formulas (A = l x w) so adding another way to write the formula (A = b x h) seems confusing without context, we're looking at two-dimensional figures, and volume isn't introduced until 5th grade. The lesson remains as is, but let's discuss whether introducing those words was confusing and/or purposeful. Lessons 9.2 and 9.3 were flip-flopped in order to better support the learning progression for area. LC, 8/22

INTERDISCIPLINARY CONNECTIONS: NEW JERSEY STUDENT LEARNING STANDARDS FOR ELA, SOCIAL STUDIES, SCIENCE AND/OR MATHEMATICS

LA.K-12.NJSLSA.R1	Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

LA.K-12.NJSLSA.R10	Read and comprehend complex literary and informational texts independently and proficiently with scaffolding as needed.
LA.RI.4.1	Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.
LA.K-12.NJSLSA.W1	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
LA.K-12.NJSLSA.W4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LA.RI.4.10	By the end of year, read and comprehend literary nonfiction at grade level text-complexity or above, with scaffolding as needed.
LA.RF.4.3	Know and apply grade-level phonics and word analysis skills in decoding and encoding words.
LA.K-12.NJSLSA.W10	Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.
LA.RF.4.3.A	Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.
LA.RF.4.4	Read with sufficient accuracy and fluency to support comprehension.
LA.RF.4.4.A	Read grade-level text with purpose and understanding.
LA.K-12.NJSLSA.SL1	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
LA.RF.4.4.C	Use context to confirm or self-correct word recognition and understanding, rereading as necessary.
LA.K-12.NJSLSA.SL2	Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
LA.K-12.NJSLSA.SL3	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.
LA.W.4.1	Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
LA.K-12.NJSLSA.SL4	Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
LA.W.4.1.A	Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose.
LA.W.4.1.B	Provide reasons that are supported by facts from texts and/or other sources.
LA.W.4.1.C	Link opinion and reasons using words and phrases (e.g., for instance, in order to, in addition).
LA.W.4.1.D	Provide a conclusion related to the opinion presented.
LA.K-12.NJSLSA.L1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
LA.K-12.NJSLSA.L2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
LA.K-12.NJSLSA.L3	Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
LA.K-12.NJSLSA.L4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases by

	using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
LA.K-12.NJSLSA.L5	Demonstrate understanding of word relationships and nuances in word meanings.
LA.K-12.NJSLSA.L6	Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.
LA.SL.4.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.
LA.SL.4.1.A	Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion.
LA.SL.4.1.B	Follow agreed-upon rules for discussions and carry out assigned roles.
LA.SL.4.1.C	Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.
LA.SL.4.1.D	Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.
LA.SL.4.2	Paraphrase portions of a text read aloud or information presented in diverse media and formats (e.g., visually, quantitatively, and orally).
LA.SL.4.3	Identify the reasons and evidence a speaker provides to support particular points.
LA.SL.4.4	Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
LA.SL.4.5	Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.
LA.SL.4.6	Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation.
LA.L.4.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
LA.L.4.1.F	Produce complete sentences, recognizing and correcting inappropriate fragments and run-ons.
LA.L.4.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
LA.L.4.2.A	Use correct capitalization.
LA.L.4.2.D	Spell grade-appropriate words correctly, consulting references as needed.
LA.L.4.3	Use knowledge of language and its conventions when writing, speaking, reading, or listening.
LA.L.4.3.A	Choose words and phrases to convey ideas precisely.
LA.L.4.3.C	Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion).
LA.L.4.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 4 reading and content, choosing flexibly from a range of strategies.
LA.L.4.4.A	Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase.
LA.L.4.4.B	Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., telegraph, photograph, autograph).