Unit 2 -Big Ideas Chapters 5-9

Content Area: **Mathematics**
Course(s): **Mathematics 3**
Time Period: **December**
Length: **49 Instructional Days**
Status: **Published**

Unit 2 Overview: Big Ideas Math Chapters 5-9

Unit 2--Big Ideas Math Chapters 5-9

(Length of Time: 2nd Trimester)

This unit includes:

- Patterns & Fluency (Chapter 5)
- Relate Area to Multiplication (Chapter 6)
- Round and Estimate Numbers (Chapter 7)
- Add & Subtract Multi-Digit Numbers (Chapter 8)
- Multiples and Problem Solving (Chapter 9)

Priority Standards

MATH.3.OA.A	Represent and solve problems involving multiplication and division
MATH.3.OA.C	Multiply and divide within 100
MATH.3.OA.D	Solve problems involving the four operations, and identify and explain patterns in arithmetic
MATH.3.NBT.A.1	Use place value understanding to round whole numbers to the nearest 10 or 100.
MATH.3.NBT.A.2	With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
MATH.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.
MATH.3.M.B.3	Recognize area as an attribute of plane figures and understand concepts of area measurement.

Unit 2 Learning Goals

Big Ideas Chapter	Content Focus	CCSS Priority

Chapter 5	**Patterns and Fluency**	**Standard:** 3.OA.D - Solve two-s problems, including pr money, using the four Represent these probl equations with a lette unknown quantity. As reasonableness of ans mental computation a strategies including rc **Standard:** 3.OA.A - Represent ar involving multiplicatio **Standard:** 3.OA.C - With accurac multiply and divide wi strategies such as the between multiplicatior (e.g., knowing that, o properties of operatio Grade 3, know from n products of two one-d
Chapter 6	**Relate Area to Multiplication**	**Standard:** 3.M.B Geometric meas Understand concepts area to multiplication

Chapter 7	**Round and Estimate Numbers**	**Standard:** 3.NBT.A.1 - Use place understanding to rour to the nearest 10 or 1 **Standard:** 3.NBT.A.2 - With accu efficiency, add and su 1000 using strategies based on place value, operations, and/or the between addition and
Chapter 8	**Add & Subtract Multi-Digit Numbers**	**Standard:** 3.NBT.A.2 - With accu efficiency, add and su 1000 using strategies based on place value, operations, and/or the between addition and

Chapter 9	**Multiples and Problem Solving**	**Standard:** 3.NBT.A.3 - Multiply c numbers by multiples range 10–90 using str place value and prope operations. **Standard:** 3.OA.D - Solve two-s problems, including p money, using the four Represent these prob equations with a lette unknown quantity. As reasonableness of ans mental computation a strategies including rc

Learning Targets

Students will be able to:

- Add three-digit numbers.
- Add up to four numbers
- Complete a multiplication table.
- Count to find the area of a shape using standard units.
- Count to find the area of a shape.
- Find the area of a shape made up of rectangles.
- I can use addition to measure the area of a figure. (MA.3.3.MD.5)
- I can use the formula for area to calculate the area of rectangles. (MA.3.3.MD.7)
- Identify and use addition properties
- Identify the values of digits in three-digit numbers
- Identify, explain, and use patterns related to the multiplication table
- Solve multiplication and division word problems.
- Subtract three-digit numbers
- Use a number line to find a difference
- Use a number line to find a sum.
- Use a number line to round numbers to the nearest ten or nearest hundred.
- Use inverse operations to check answers.
- Use mental math to find a difference.
- Use mental math to find a sum.
- Use multiplication to find the area of a rectangle.
- Use number lines to multiply by multiples of 10
- Use partial sums to find a sum
- Use place value to multiply by multiples of 10.
- Use place value to round numbers to the nearest ten or nearest hundred.
- Use properties to multiply by multiples of 10.
- Use rounding or compatible numbers to estimate differences.
- Use rounding or compatible numbers to estimate sums.
- Use the Distributive Property to find the area of a rectangle
- Use the multiplication table to write related multiplication and division facts.
- Use the problem-solving plan to solve two-step addition and subtraction word problems.
- Use the problem-solving plan to solve two-step multiplication and division word problems.
- Use the problem-solving plan to solve two-step word problems involving different operations.

Materials and Resources

- Big Ideas Materials
- Frax
- iReady
- Reflex Math

Unit Assessments (Required)

- Big Ideas Chapter 5 Assessment
- Big Ideas Chapter 6 Assessment
- Big Ideas Chapter 7 Assessment
- Big Ideas Chapter 8 Assessment
- Big Ideas Chapter 9 Assessment

Strategies for Students in Need of Intervention

- Extend pacing of lessons
- Graph paper
- Incorporate centers that focus on skills that students are struggling with
- Modified/ shortened assignments if necessary
- Multiplication chart
- Place value chart if applicable
- Provide a copy of notes/directions
- Provide list/chart of key words used in word problems to help determine operation. For example "In all, altogether mean addition"
- Small group instruction based on levels/abilities
- Use of calculator
- Use of manipulatives
- Utilize visual aids

Learning Plan and Pacing Guide

Trimester 2 ~ Big Ideas Chapters 5-9

Time Frame	Lesson	Standard(s)	Target
Big Ideas Chapter 5 (6 days)	Lesson 5.1 : Identify Patterns in the Multiplication Table	Standard: 3.OA.D - Solve two-step word problems, including problems involving money, 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.	Target: I can identify, explain, and use patterns related to the multiplication table.

Lesson 5.2 : Use the Multiplication Table	Standard: 3.OA.D - Solve two-step word problems, including problems involving money, 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.	Target: I can use the multiplication table to write related multiplication and division facts.
Lesson 5.3 : Complete the Multiplication Table	Standard: 3.OA.D - Solve two-step word problems, including problems involving money, 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. Standard: 3.OA.A - Represent and solve problems involving multiplication and division.	Target: I can complete a multiplication table.
Lesson 5.4: More Problem Solving	Standard: 3.OA.C - With accuracy and efficiency, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that, one knows) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.	Target: I can solve multiplication and division word problems.
Review Chapter 5	Standard: 3.OA.D - Solve two-step word problems, including problems involving money, 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. Standard: 3.OA.A - Represent and solve problems involving multiplication and division.	Target: I can use a multiplication table to identify/explain patterns.

		Standard: 3.OA.C - With accuracy and efficiency, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that, one knows) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.	I can solve multiplication and division word problems
		Standard: 3.OA.D - Solve two-step word problems, including problems involving money, 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	
		Standard: 3.OA.A - Represent and solve problems involving multiplication and division.	
	Chapter 5 Assessment	Standard: 3.OA.C - With accuracy and efficiency, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that, one knows) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.	Target: I can use a multiplication table to identify/explain patterns. I can solve multiplication and division word problems
		Standard: 3.OA.D - Solve two-step word problems, including problems involving money, 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	
Big Ideas	Lesson: Preparing for	Standard:	Target:I can find the area by counting unit

Chapter 6 (8 days)	Chapter 6 Area (2 Days)	3.M.B Geometric measurement - Understand concepts of area and relate area to multiplication and to addition.	squares.
	Lesson 6.1: Understand Area	Standard: 3.M.B Geometric measurement - Understand concepts of area and relate area to multiplication and to addition.	Target: I can count to find the area of a shape.
	Lesson 6.2: Measure Area Using Standard Units	Standard: 3.M.B Geometric measurement - Understand concepts of area and relate area to multiplication and to addition.	Target: I can count to find the area of a shape using standard units.
	Lesson 6.3: Find Area By Multiplying	Standard: 3.M.B Geometric measurement - Understand concepts of area and relate area to multiplication and to addition.	Target: I can use multiplication to find the area of a rectangle.
	Lesson 6.4: Area and the Distributive Property	Standard: 3.M.B Geometric measurement - Understand concepts of area and relate area to multiplication and to addition.	Target: I can use the Distributive Property to find the area of a rectangle.
	Lesson 6.5: Find the Area of More Shapes	Standard: 3.M.B Geometric measurement - Understand concepts of area and relate area to multiplication and to addition.	Target: I can find the area of a shape made up of rectangles.
	.Chapter 6 Review	Standard: 3.M.B Geometric measurement - Understand concepts of area and relate area to multiplication and to addition.	Target: I can find the area of a shape.
	.Chapter 6 Assessment	Standard: 3.M.B Geometric measurement - Understand concepts of area and relate area to multiplication	Target: I can find the area of a shape.

		and to addition.	
Big Ideas Chapter 7 (7 days)	Lesson: 7.1 Place Value	Standard: 3.NBT.A.1 - Use place value understanding to round whole numbers to the nearest 10 or 100.	Target: .I can identify the values of digits in three-digit numbers.
	Lesson: 7.2 Rounding Numbers Using a Number Line	Standard: 3.NBT.A.1 - Use place value understanding to round whole numbers to the nearest 10 or 100.	Target: .I can round (to the nearest 10) using a number line and place value.
	Lesson: 7.3 Rounding Numbers Using Place Value	Standard: 3.NBT.A.1 - Use place value understanding to round whole numbers to the nearest 10 or 100.	Target: .I can round (to the nearest 100) using a number line and place value.
	Lesson: 7.4 Estimate Sums	Standard: 3.NBT.A.1 - Use place value understanding to round whole numbers to the nearest 10 or 100. Standard: 3.NBT.A.2 - With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. Standard: 3.NBT.A.1 - Use place value understanding to round whole numbers to the nearest 10 or 100.	Target: .I can estimate sums.
	Lesson: 7.5 Estimate Differences	Standard: 3.NBT.A.2 - With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Target: .I can estimate differences.
	Lesson 7 REVIEW FORM A	Standard: 3.NBT.A.1 - Use place value understanding to	Target: .I can round numbers to the nearest 10 or 100 using place

		round whole numbers to the nearest 10 or 100.	value.
		Standard: 3.NBT.A.2 - With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	I can estimate sums and differences.
	Lesson 7 ASSESSMENT FORM B	Standard: 3.NBT.A.1 - Use place value understanding to round whole numbers to the nearest 10 or 100. Standard: 3.NBT.A.2 - With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Target: .I can round numbers to the nearest 10 or 100 using place value. I can estimate sums and differences.
Big Ideas Chapter 8 (14 days)	Lesson 8.1: Addition Properties	Standard: 3.NBT.A.2 - With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Target: .I can identify and use addition properties,
	Lesson 8.2 Use a Number Line to Add	Standard: 3.NBT.A.2 - With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Target: .I can use different strategies to add (including a number line).
	Lesson 8.3 Use Mental Math to Add	Standard: 3.NBT.A.2 - With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Target: .I can use different strategies to add (practice adding with mental math).

Lesson 8.4 Use Partial Sums to Add	Standard: 3.NBT.A.2 - With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Target: .I can use different strategies to add
Lesson 8.5 Add Three-Digit Numbers	Standard: 3.NBT.A.2 - With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Target: .I can add three-digit numbers.
Lesson 8.6 Add Three or More Numbers	Standard: 3.NBT.A.2 - With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Target: .I can add up to four numbers.
Lesson 8.7 Use Number Lines to Subtract	Standard: 3.NBT.A.2 - With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Target: I can use a number line to find the difference.
Lesson: Lesson 8.8: Use Mental Math to Subtract Just subtract	Standard: 3.NBT.A.2 - With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Target: .I can use any strategy to subtract.
Lesson 8.9: Subtract 3 Digit Numbers	Standard: 3.NBT.A.2 - With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between	Target: I can subtract 3 digit numbers.

		addition and subtraction.	
	Lesson 8.10: Relate Addition & Subtraction	Standard: 3.NBT.A.2 - With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Target: .I can explain the relationship between addition and subtraction.
	Extra Lesson: Subtract Across Zero	Standard: 3.NBT.A.2 - With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Target: I can subtract across zeros..
	Lesson: 8.11 Addition/Subtraction Word Problems	Standard: 3.NBT.A.2 - With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Target: I can use problem solving strategies to add and subtract word problems.
	Lesson: Ch 8 Review	Standard: 3.NBT.A.2 - With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Target: I can fluently add and subtract using any strategy.
	Lesson: Ch 8 Test	Standard: 3.NBT.A.2 - With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	Target: I can fluently add and subtract using any strategy.
Big Ideas Chapter	Lesson 9.1: Number Lines and Multiples of 10	Standard: 3.NBT.A.3 - Multiply one-digit whole numbers by multiples of 10 in the range 10–90 using	Target: I can use number lines to multiply by multiples of 10.

9		strategies based on place value and properties of operations.	
(14 days)			
	Lesson 9.2: Using Place Value to Multiply by Multiples of 10	Standard: 3.NBT.A.3 - Multiply one-digit whole numbers by multiples of 10 in the range 10–90 using strategies based on place value and properties of operations.	Target: I can use place value to multiply by multiples of 10.
	Lesson: 9.3: Using Properties to Multiply by Multiples of 10	Standard: 3.NBT.A.3 - Multiply one-digit whole numbers by multiples of 10 in the range 10–90 using strategies based on place value and properties of operations.	Target: I can use properties to multiply by multiples of 10.
	Lesson: 9.4: Problem-Solving: Multiplication & Division	Standard: 3.OA.D - Solve two-step word problems, including problems involving money, 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	Target: I can solve two step multiplication and division problems.
	Lesson: 9.5 Problem-Solving: All Operations	Standard: 3.OA.D - Solve two-step word problems, including problems involving money, 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	Target: I can solve two-step word problems involving different operations.
	Chapter 9 Review	Standard: 3.NBT.A.3 - Multiply one-digit whole numbers by multiples of 10 in the range 10–90 using strategies based on place value and properties of operations.	Target: I can use place value and properties to multiply by multiples of 10.
		Standard: 3.OA.D - Solve two-step word problems,	I can solve two-step word problems involving different operations.

	including problems involving money, 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	
	Standard: 3.NBT.A.3 - Multiply one-digit whole numbers by multiples of 10 in the range 10–90 using strategies based on place value and properties of operations.	Target: I can use place value and properties to multiply by multiples of 10.
Chapter 9 Assessment	Standard: 3.OA.D - Solve two-step word problems, including problems involving money, 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	I can solve two-step word problems involving different operations.

Technology Integration

- Big Ideas Online
- Freckle Math
- Google Classroom
- Reflex Math: https://www.reflexmath.com/
- www.brainpopjr.com
- www.khanacademy.com

TECH.8.1.5.A.2	Format a document using a word processing application to enhance text and include graphics, symbols and/or pictures.
TECH.8.1.5.A.3	Use a graphic organizer to organize information about problem or issue.
TECH.8.1.5.E.1	Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks.
TECH.8.2.5.D.3	Follow step by step directions to assemble a product or solve a problem.
TECH.8.2.5.E.4	Use appropriate terms in conversation (e.g., algorithm, program, debug, loop, events,

procedures, memory, storage, processing, software, coding, procedure, and data).

Interdisciplinary Connections

- Math/STEAM: Students will integrate science, technology, engineering, and/or art with math to develop a game that involves place value
- Math/Science/Reading: My Math Leveled Readers
- Math/Social Studies/Reading: My Math Leveled Readers
- Math/Social Studies: Provide examples on a famous mathematician