



Third Grade Math Unit 3

Stage 1- Desired Results

Unit Focus Standards

Module 9: Using Operations to Compare Fractions	3.NF.A.2	3.NF.A.3
Module 10: Identifying Shapes and Determining Area and Perimeter	3.G.A.1	3.MD.C.7 3.MD.D.8
Module 11: Engaging with Properties of Operations and Mathematical Relationships with Whole Numbers	3.OA.B.5	3.OA.D.8

ESSENTIAL QUESTIONS

Module 9: How can fractions be modeled, compared, ordered, and named?

Module 10: How can measurement help us analyze and make sense of our world?

Module 11: How can mathematical properties and relationships help me solve problems?

ENDURING UNDERSTANDINGS:

- Fractions are quantities that can be represented in infinitely many ways.
- Place value and properties of operations make problems easier to solve.
- Graphs communicate information to help solve problems.
- Shapes in different categories share attributes which can define a larger category.
- Multiplication can help me solve measurement problems.

Stage 2: Assessments

Assessment 1: Fact Fluency Assessment (Assessment Calendar)
Assessment 2: Area and Perimeter Assessment
Assessment 3: Multiple Groups Multiplication Assessment

Stage 3- Learning Activities

Daily Number Work	3rd Grade Number Choice Progression
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Module 9: Using Operations to Compare Fractions

Formative Assessments for Module 9:

These assessments are meant to be formative assessments and are not the required Stage 2 assessments. They are included to as an additional resource to be used at the teacher's discretion.

[ACT Aspire Assessment Prep Items Fractions on a Number Line](#)

[Analyze the Thinking Fractions](#)

[ACT Aspire Prep Items Understanding of Fractions](#) (also listed as a practice for lesson 2, use as needed)

From Unit 2:

Probes and Guides from Cheryl Tobey

- [Is 1/4 of the Whole Shaded? Probes and Guide](#)
 - [Is 1/4 of the Whole Shaded? paper copy](#)
 - [How Much is Shaded? Variation paper copy](#)

Learning Goal	Lesson	Supports
Lesson 1: Students will compose a whole from unit fractions.	MUoS Lesson: Making Wholes from Unit Fractions	
Lesson 2: Students will compose a whole from unit fractions, and use what they know about multiplication to solve problems with combining fractions.	Lesson: MUoS: Determining the Number of Wholes- • Student page Daily Number Work: • Classroom Number Line for Fractions	 ACT Aspire Assessment Prep Items Fractions on a Number Line
Lesson 3: Students will compose a whole from unit fractions, and use what they know about multiplication to solve problems with combining fractions.	Lesson: MUoS Lesson: Continuing to Make Wholes- Student page Daily Number Work: • Relating Fractions	 ACT Aspire Prep Items- Fractions  Exit Ticket
LESSON 4: Students will analyze the thinking of others to group non unit fractions.	Lesson: Fractions on a Number Line • Student page Daily Number Work: • How many fourths are in...	
LESSON 5: Students will justify foundational understanding of fractions.	MUoS Lesson: Justifying Fractional Forms- • Student page Daily Number Work: • How many wholes are in...	
Lesson 6: Students will compare numbers strategically.	MUoS Lesson: Comparing Numbers with Strategic Strategies (Comparing Whole Numbers)	

Lesson 7: Students will compare numbers strategically.	<u>MUoS Lesson: Comparing Fractions</u>	
LESSON 8: Students will use their understanding of relationships between fractions to compare fractions in context.	Lesson: Comparing Fractions Student Page Daily number Work: - Which fraction is greater if they are both referring to the same whole?	 Fraction Matcher Interactive
LESSON 9: Students will use their understanding of relationships between fractions to compare fractions in context.	Lesson: More Comparing Fractions Student page Daily Number Work: - Which set of fractions would you find it easier to compare?	
Lesson 10: Students will use their understanding of fractions to build their understanding of fraction equivalence.	Lesson: <u>MUoS Lesson: Comparing Fractional Amounts with a Whole</u> Student page Daily Number Work: Numbered Heads Together How could $\frac{1}{4}$ be bigger than $\frac{1}{2}$?	
Lesson 11: Students will use their understanding of fractions to solve equivalencing problems.	Lesson: <u>MUoS Lesson: Equivalencing Problems</u> Student page Daily Number Work: Fractions on a Number Line game	 Exit Ticket
Lesson 12: Students will use their understanding of fractions to solve equivalencing problems.	Lesson: More Equivalencing Problems Student page Daily Number Work: Fractions on a Number Line game	

Module 10: Identifying Shapes and Determining Area and Perimeter

Formative Assessments for Module 10:

- [Tobey Uncovering Student Thinking pg 155-158 Shapes](#) (This K-2 probe on triangles can be used as a pre-assessment.)
- [3rd Area and Perimeter Assessment](#)
- [Module 9 and 10 Assessment Multi-Step Prep Items- Area, Perimeter, Fraction, Shape](#)

Probes and Guides from Cheryl Tobey

- [Tobey What's the Area Probes and Guide](#)

(These assessments are meant to be formative assessments and are not the required Stage 2 assessments. They are included to as an additional resource to be used at the teacher’s discretion.)

Learning Goal	Lesson	Supports
LESSON 1: Students will sort shapes and name categories of shapes defined by shared attributes.	Lesson: Shapes and Their Attributes See lesson for student pages Daily Number Work: • Shapes	
LESSON 2: Students will sort shapes and name categories of shapes defined by shared attributes.	Lesson: Categories of Shapes • Student page Daily Number Work: • Shape Elimination	 Which shapes are quadrilaterals?
LESSON 3: (2 days) Students will compare and order areas while establishing the need for a standard measurement unit for area (square units).	Lesson: Rich Lehrer Unit 1 Daily Number Work: • Area of 5 Square Units	 ACT Aspire Comparing Areas  Go Formative Exit Ticket Square Units
LESSON 4: Students will evaluate expressions using properties of operations for a problem and justify their conclusions using precise mathematical language.	Lesson: Area as an Expression • Student Page Daily Number Work: Rectangle Comparison-Square Units	 Expressions of Area Practice
LESSON 5: (2 days) Students will spatially structure, and re-structure, 2- dimensional spaces as they generate area by sweeping one length through another and then use thin spaghetti to define units.	Lesson: Rich Lehrer Unit 3 Sweeping Area Daily Number Work: • Connecting Fraction to Area	 ACT Aspire Tiling and Multiplying to Find Areas
LESSON 6: Students will relate tiling and multiplication concepts to area.	Lesson: Area to build Fact Fluency and The Distributive Property of Multiplication over Addition • Student Page Daily Number Work: • Mental Math	

LESSON 7: Students will apply understanding of area and multiplication to find unknown measure of one side of a rectangle.	Lesson: Area- Finding the Unknown Side • Student Page Daily Number Work: • Mental Math	 ACT Aspire Practice Calculating Area and Perimeter
LESSON 8: Students will dissect and re-structure rectilinear figures to experience area measures that remain constant but result in different perimeter measures.	Lesson: Area and Perimeter • Student Page Daily Number Work: • Dissection of Rectilinear Figures	
LESSON 9: Students will dissect rectilinear figures, determine the area of each, and find the sums of the areas and the perimeter of the figure.	Lesson: Rich Lehrer Unit 4 Comparing Zoo Enclosures Daily Number Work: • Calculate the Area and Perimeter Card Game	
LESSON 10: Students create rectangles with the same perimeter and prove that they have different areas while exploring relationships among the perimeters and areas and find which rectangle has the greatest area.	Lesson: Same Perimeter, Different Area • Student Page Daily Number Work: • Calculate the Area and Perimeter Card Game	
LESSON 11: Students solve multi-step problems involving area and perimeter.	Lesson: Multi-Step Problems with Area and Perimeter • Student Page Daily Number Work: • Area and Perimeter Interactive game	 3rd Area and Perimeter Assessment

Module 11: Engaging with Properties of Operations and Mathematical Relationships

Formative Assessments for Module 11: (These assessments are meant to be formative assessments and are not the required Stage 2 assessments. They are included to as an additional resource to be used at the teacher's discretion.)

- [ACT Aspire Formative Assessment Prep Multiplication and Division](#)
- [ACT Aspire Prep Items Assessment for Reading and Creating Graphs to Solve Addition and Subtraction Problems](#)

These are assessments from unit 2 that may still be useful for assessing these foundational concept

- [Critique the Reasoning of Others](#)
- [Battista Addition/Subtraction Assessment with Guide](#)

Probes and Guides from Cheryl Tobey

- [Tobey What's Your Subtraction Strategy? Probes and Guide](#)

- [Tobey What's your Subtraction Strategy double digits](#)

- [Tobey What's Your Multiplication Strategy Probes and Guide](#)

These are assessments from unit 1 that may still be useful for assessing these foundational concept

[Equal Groupings Assessment](#)

[Complete the Equation](#)

[Equal Groupings Assessment 2](#)

[Representing Multiplication and Division](#)

[Relating Multiplication and Division](#)

Learning Goal	Lesson	Supports
LESSON 1: Students will develop place value understanding while continuing to explore the Distributive Property of Multiplication Over Addition, the Associative Property of Multiplication, and Power of 10.	Lesson: Multiplication to Build Place Value and Property Understanding ● Student page Daily Number Work: ● Counting Collections with Base Ten ● Student Recording Sheet for Counting Collections	 Comparing Numbers with The Power of 10
LESSON 2: Students will use the relationship between multiplication and division and properties of operations to solve division problems to build foundation for fluency with 7s and 8s.	Lesson: Partitive Division Problems and the Relationship between Multiplication and Division ● Student Page Daily Number Work: ● Mental Math Strategies	 ACT Aspire Formative Assessment Multiplication and Division  Multiplication Math Card Match
LESSON 3: Students will use the relationship between multiplication and division and properties of operations to solve multistep problems.	Lesson: Multi-step Multiplication and Partitive Division to Build Fact Fluency ● Student Page Daily Number Work: ● Jump To It	 Division Facts Interactive
LESSON 4: Students will use the relationship between multiplication and division and properties of operations to solve multistep problems.	Lesson: Multi-step Multiplication and Measurement Division to Build Fact Fluency ● Student Page Daily Number Work: ● Jump To It	 ACT Prep Item Practice 1 for Multiplication and Division
LESSON 5: Students will develop place value understanding while continuing to explore the Associative Property of Multiplication and Power of 10 as used in division solutions.	Lesson: Measurement Division to Build Place Value and Property Understanding ● Student Page Daily Number Work:	 ACT Prep Item Practice 2 for Multiplication and Division

	Decomposing Numbers:	
LESSON 6: Students will use strategic strategies to solve problems.	MUoS Lesson: Strategic Strategies	
LESSON 7: Students will use the relationship between addition and subtraction to solve problems.	Lesson: MUoS Lesson: Using the Relationship between Addition and Subtraction Student Page Daily Number Work: - What was Your Method?	 Exit Ticket
LESSON 8: Students will solve multi-step problems using place value, mathematical properties and relationships.	Lesson: MUoS Lesson: Incrementing with Place Value Student page Daily Number Work: - Number Talks	
LESSON 9: Students will substitute a compatible number (rounding) to the nearest 100 to estimate answers to problems.	Lesson: Creating and Analyzing Scaled Graphs Student Page Daily Number Work: Rounding Lesson	
LESSON 10: Students will read and draw scaled picture graphs and bar graphs and answer questions based on the graphs.	Lesson: Act Aspire Analyzing Scaled Graphs Daily Number Work: Interactive Bar Graph	 ACT Aspire Prep Items Assessment for Reading and Creating Graphs to Solve Addition and Subtraction Problems