3rd Grade Math
Curriculum Resources

Curriculum Overview

The Alabama Course of Study: Mathematics (2019) provides the framework for the K-12 study of Mathematics in Alabama's public schools. Content standards in this document are minimum and required, fundamental and specific, but not exhaustive. The standards set high expectations for student learning in all grades.

Here are definitions to help understand this curriculum guide:

- **Units of Study:** A series of lessons, experiences, and assessments aligned to standards that may last two to six weeks.
- **Priority Standards:** These are the standards students must know and be able to do to be prepared for the next grade level or course.
- **Supporting Standards:** These standards support, connect to, or enhance priority standards.
- **Knowledge:** What students should know related to the standard.
- **Skills:** What students should be able to do related to the standard.
- **Bloom's Taxonomy:** This hierarchy helps describe the complexity and requirements of a standard.
- **Quad:** This framework has four parts that help determine the rigor and relevance of a standard: Acquisition, Application, Assimilation, Adaptation.
- **ACT:** This refers to ACT standards alignment.
- **Key Understandings:** Essential ideas students need to understand about the standard.
- **Key Vocabulary:** Keywords that should be taught to ensure understanding of the standard.
- **Formative Assessment:** Frequent and ongoing checks for understanding teachers can use throughout the unit.
- **Summative Assessment:** How students will be assessed at the end of a unit to demonstrate their level of mastery of the standards.
- **Activities & Resources:** Specific examples, lessons, and/or resources that may be used to support implementation of the standard.
- **RTI:** Response to Intervention - additional supports/resources teachers can use for students who need them.
- **Extensions:** Additional activities and resources to extend the learning experience, especially for accelerated students.

3rd Grade Curriculum At A Glance - Pacing Calendar				
Quarter	**# Weeks**	**Unit Name**	**Priority Standards**	**Supporting Standards**
	1	Launch Week	**Pre-Assessment**	
	3	UNIT 1: Introducing Multiplication and Division	**3.1, 3.2, 3.3, 3.5**	**3.4, 3.6**
	2	UNIT 2: Applying Properties for Multiplication	**3.7, 3.9**	**3.1, 3.3**
	1	UNIT 3: Fluently Multiply and Divide Within 100	**3.7**	**3.9**
	2	UNIT 4: Connect Area to Multiplication and Addition	**3.23**	**3.7a, 3.7b, 3.20, 3.21, 3.22**
	1	UNIT 5: Represent and Interpret Data	**3.16, 3.16b**	**3.3, 3.8**
	3	UNIT 6: Add/Subtract Within 1000, Multiply by 10	**3.11, 3.12**	**3.3, 3.5,, 3.8, 3.9, 3.10**
	3	UNIT 7: Understand Equivalence & Comparison of Fractions	**3.13, 3.14a, 3.15a, 3.15b**	
	3	UNIT 8: Solve Time, Capacity and Mass Problems	**3.18, 319**	**3.7a, 3.7b**
	1	UNIT 9: Attributes of Two-Dimensional Shapes	**3.26, 3.26a**	**3.13, 3.17**
	2	UNIT 10: Distinguish Between Perimeter and Area of Shapes	**3.24, 3.25**	**3.3. 3.7a, 3.7b, 3.8, 3.11**

UNIT 1: Introducing Multiplication and Division	DURATION: 3 weeks
CONTENT STANDARDS	
PRIORITY STANDARDS • 3.I Illustrate the product of two whole numbers as equal groups by identifying the number of groups and the number in each group and represent them as a written expression. • 3.2 Illustrate and interpret the quotient of two whole numbers as the number of objects in each group or the number of groups when the whole is partitioned into equal shares. • 3.3 Solve word situations using multiplication and division within 100 involving equal groups, arrays, and measurement quantities; represent the situation using models, drawings, and equations with a symbol for the unknown number. • 3.5 Develop and apply properties of operations as strategies to multiply and divide	SUPPORTING STANDARDS • 3.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers • 3.6 Use the relationship between multiplication and division to represent division as an equation with an unknown factor.

KNOWLEDGE (students need to know):	SKILLS (students need to be able to do):	BLOOM'S TAXONOMY	QUAD	ACT
	Identify the factors that represent the number of groups and the group size in an equal groups model or drawing	Applying		
	Illustrate a situation that is modeled by a multiplication expression	Applying		
	Represent a written expression	Applying		
	Interpret quantities in a division situation as the number of objects in each group or the number of equal groups	Applying		
	Illustrate a quotient using a model or drawing	Applying		
	Solve word problems using multiplication within 100	Applying		

	Solve word problems using division within 100	**Applying**		
The Zero Property of Multiplication		**Understanding**		
The Identity Property of Multiplication		**Understanding**		
The Commutative Property of Multiplication		**Understanding**		
The Distributive Property of Multiplication		**Understanding**		
The Associative Property of Multiplication		**Understanding**		
	Demonstrate the Zero Property, Identity Property, Commutative Property, Distributive Property and Associative Property using visual models	**Applying**		

KEY COMPONENTS		
LEARNING TARGETS (incremental learning target by week) **<u>Week 1:</u>** ● **Day 1: I can use addition or multiplication to join equal groups.** ● **Day 2: I can use a number line to represent and solve multiplication facts** ● **Day 3: I can use arrays and multiply factors in order to solve multiplication problems.** ● **Day 4: I can use objects or pictures to show how objects can be divided into equal groups.** ● **Day 5: I can use repeated subtraction to understand and solve division problems** **<u>Week 2:</u>** ● **Day 6: I can think strategically to determine which tool will be most useful.** ● **Day 7: Assessment** ● **Day 8: I can use patterns to multiply to 2 and 5.** ● **Day 9: I can use patterns to multiply by 9.**	**KEY VOCABULARY** ● **Equal Groups** ● **Multiplication** ● **Factors** ● **Product** ● **Equations** ● **Unknown** ● **Multiples** ● **Array** ● **Equal groups** ● **Factor** ● **Product** ● **Equation** ● **Multiplication** ● **Row** ● **Column** ● **Skip count**	

<u>Week 3</u> • Day 10: I can use patterns and properties to multiply by 0 and 1. Mid-Chapter Checkpoint • Day 11: I can use place-value patterns to multiply by 10. • Day 12: I can use basic multiplication facts to solve problems • Day 13: I can use math I know to solve problems. • Day 14: Assessment	• Addends • Expression • Divisor • Dividend • Quotient • Equal share • Partition	

ESSENTIAL QUESTION(S)	PRIOR KNOWLEDGE
Unit 1 • Topic 1- How can thinking about equal groups help you understand the connection between multiplication and division? • Topic 2- How can I use what I know about equal groups to help multiply numbers?	• Use addition of equal groups to find a total • Addition on the number line is shown by moving to the right • Build, draw, and use repeated addition to model and identify the number in each group (or column) • Write an expression to express the total number of objects in an array • Separate objects into equal size groups • Identify equal and unequal groups • Multiplication is the total when equal groups are joined • Division is the sharing and separating of objects into equal groups • Partitioning into equal size shares • Partitioning equally among a given number of groups • Model division equations and the desired results found during division • Write an equation to match a model or drawing to determine the total number of objects • The Properties of Addition (Identity, Commutative, Distributive and Associative) • How to decompose a number

FORMATIVE ASSESSMENT	SUMMATIVE ASSESSMENT

ACTIVITIES & RESOURCES		
Envision Resources	**Other Resources** 3.1 Proficiency Scales 3.2 Proficiency Scales 3.3 Proficiency Scales	**ACAP Resources**
RTI	**EXTENSION OPPORTUNITIES**	

UNIT 2: Applying Properties for Multiplication	DURATION: 4 weeks
CONTENT STANDARDS	
PRIORITY STANDARDS • 3.1 Illustrate the product of two whole numbers as equal groups by identifying the number of groups and the number in each group and represent them as a written expression. • 3.3 Solve word situations using multiplication and division within 100 involving equal groups, arrays, and measurement quantities; represent the situation using models, drawings, and equations with a symbol for the unknown number. • 3.7 Use strategies based on properties and patterns of multiplication to demonstrate fluency with multiplication and division within 100.	SUPPORTING STANDARDS • 3.9 Recognize and explain arithmetic patterns using properties of operations.

KNOWLEDGE (students need to know):	SKILLS (students need to be able to do):	BLOOM'S TAXONOMY	QUAD	ACT
	Identify the factors that represent the number of groups and the group size in an equal groups model or drawing	Applying		

	Illustrate a situation that is modeled by a multiplication expression	**Applying**		
	Represent a written expression	**Applying**		
	Solve word problems using multiplication within 100	**Applying**		
	Solve word problems using division within 100	**Applying**		
	Use an efficient strategy to name the product of two one-digit numbers (e.g., inverse operations, derived facts, properties of operations, doubling, halving, tripling, skip counting, square numbers)	**Applying**		
	Use an efficient strategy to name the quotient	**Applying**		

KEY COMPONENTS

LEARNING TARGETS (incremental learning target by week)

Week 1

- **Day 1: I can break apart unknown facts into known facts and solve multiplication problems.**
- **Day 2: I can use tools and properties strategically to solve problems when I multiply by 3 or 4.**
- **Day 3: Assess and Reteach**
- **Day 4: I can make and use models to solve multiplication problems that have 6 and 7 as factors.**
- **Day 5: I can use known facts and properties to multiply by 8.**

Week 2

- **Day 6: Assess and Reteach**
- **Day 7: I can use strategies and tools to represent**

KEY VOCABULARY

- **Distributive Property**
- **Equal Groups**
- **Equation**
- **Expression**
- **Factor**
- **Product**
- **Array**
- **Row**
- **Column**
- **Skip Count**
- **Measurement**
- **Division**
- **Quotient**
- **Partitive Division**
- **Fluently**
- **Properties of Operations**
- **Digit**
- **Divisor**
- **Dividend**
- **Inverse Operation**
- **Derived Fact**
- **Arithmetic Pattern**
- **Starting Value**
- **Addition Table**
- **Multiplication Table**
- **Consecutive**
- **Time**
- **Decompose**

and solve multiplication facts. ● Day 8: I can multiply 3 factors in any order to find a product. ● Day 9: Assess and Reteach ● Day 10: I can use multiplication facts to divide (2, 3, 4 and 5) <u>Week 3</u> ● Day 11: Assess and Reteach ● Day 12: I can use use multiplication facts to divide (6 and 7) ● Day 13: I can use multiplication facts to divide (8 and 9) ● Day 14: Assess and Reteach ● Day 15: I can identify whether products will be even or odd based on the factors <u>Week 4</u> ● Day 17: I can use properties and patterns for dividing with 0 and 1 using related multiplication facts ● Day 18: I can use patterns and known facts to find unknown multiplication and division facts	● Represent	
ESSENTIAL QUESTION(S) Unit 2 ● Topic 3–How can you use known multiplication facts to solve unknown facts? ● Topic 4-How can you use known multiplication facts to find unknown division facts? How are multiplication and division related?	**PRIOR KNOWLEDGE** ● Build, draw, and use repeated addition to model and identify the number in each group (or column) ● Write an expression to express the total number of objects in an array ● Separate objects into equal size groups ● Identify equal and unequal groups ● Write an equation to match a model or drawing to determine the total number of objects ● Use known facts to derive unknown facts ● Use models to determine unknown facts ● Name the first ten multiples of each one-digit natural number (skip counting) ● Recognize multiplication as repeated addition and division as repeated subtraction ● Apply properties of operations as strategies to add and subtract	

FORMATIVE ASSESSMENT	**SUMMATIVE ASSESSMENT**

ACTIVITIES & RESOURCES		
Envision Resources	**Other Resources** 3.1 Proficiency Scales 3.3 Proficiency Scales 3.7 Proficiency Scales	**ACAP Resources**
RTI	**EXTENSION OPPORTUNITIES**	

UNIT 3: Fluently Multiply and Divide Within 100	DURATION: 1 week
CONTENT STANDARDS	
PRIORITY STANDARDS • 3.7 Use strategies based on properties and patterns of multiplication to demonstrate fluency with multiplication and division within 100. • 3.8 Determine and justify solutions for two-step word problems using the four operations and write an equation with a letter standing for the unknown quantity. Determine reasonableness of answers using number sense, context, mental computation and estimation strategies including rounding.	SUPPORTING STANDARDS • 3.7a Fluently determine all products obtained by multiplying two one-digit numbers • 3.7b State automatically all products of two one-digit numbers by the end of third grade. • 3.9 Recognize and explain arithmetic patterns using properties of operations.

KNOWLEDGE (students need to know):	SKILLS (students need to be able to do):	BLOOM'S TAXONOMY	QUAD	ACT
	Use an efficient strategy to name the product of two one-digit numbers (e.g., inverse operations, derived facts, properties of operations, doubling, halving, tripling, skip counting, square numbers)	Applying		
	Use an efficient strategy to name the quotient	Applying		
	Apply understanding of operations and estimation to find and justify solutions			
	Write an equation to represent the problem using a letter for the unknown quantity			

KEY COMPONENTS		
LEARNING TARGETS (incremental learning target by week) Week 1:	KEY VOCABULARY • Fluently	• Arithmetic Pattern

Day 1: I can the multiplication table to find patterns in factors and products Day 2: I can use multiplication and division as inverse operations Day 3: Assess and Reteach Day 4-5: I can find other ways to break apart arrays and solve multiplication problems Week 2 Day 6: Assess and Reteach	• Properties of Operations • Product • Digit • Divisor • Dividend • Inverse Operation • Derived Fact	• Starting Value • Addition Table • Multiplication Table • Consecutive • Term • Decompose
ESSENTIAL QUESTION(S) Unit 3 • Topic 5-What are strategies to solve multiplication and division facts?	PRIOR KNOWLEDGE • Use known facts to derive unknown facts • Use models to determine unknown facts • Name the first 10 multiples of each one-digit natural number (skip-counting) • Recognize multiplication as repeated addition and division as repeated subtraction • Apply properties of operations as strategies to add and subtract • Solve multiplication and division equations	

FORMATIVE ASSESSMENT	SUMMATIVE ASSESSMENT

ACTIVITIES & RESOURCES		
Envision Resources	Other Resources 3.7 Proficiency Scales	ACAP Resources
RTI	EXTENSION OPPORTUNITIES	

UNIT 4: Connect Area to Multiplication and Addition	DURATION: 2 weeks
CONTENT STANDARDS	
PRIORITY STANDARDS • 3.23 Decompose rectilinear figures into smaller rectangles to find the area, using concrete materials.	SUPPORTING STANDARDS • **3.7a Fluently determine all products obtained by multiplying two one-digit numbers** • **3.7b State automatically all products of two one-digit numbers by the end of third grade.** • **3.20** Find the area of a rectangle with whole number side lengths by tiling without gaps or overlaps and counting unit squares. • 3.21 Count unit squares (square cm, square m, square in, square ft, and improvised or non-standard units) to determine area. • 3.22 Relate area to the operations of multiplication using real-world problems, concrete materials, mathematical reasoning, and the distributive property.

KNOWLEDGE (students need to know):	SKILLS (students need to be able to do):	BLOOM'S TAXONOMY	QUAD	ACT
Understand that multiplying the side lengths of a rectangle yields the measurement of the area		Understanding		
	Explain why multiplying the side lengths of a rectangle yields the measurement of the area	Applying		
	Write a multiplication expression to represent the area of a given rectangle when the side lengths of the rectangle are given or represented with concrete representations	Creating		
	Represent the area of a rectangle with whole number side lengths a and b+c is the sum of $a \times b$ and $a \times c$ using the distributive property	applying		

	Solve word problems by multiplying side lengths to find areas of rectangles with whole number side lengths involving measurement	Applying		

KEY COMPONENTS

LEARNING TARGETS (incremental learning target by week)

Week 1:

- Day 1: I can find the area of regular and irregular shapes by counting and estimating unit squares
- Day 2: I can find the area using different-sized unit squares
- Day 3: I can use standard units of measure related to area (square inches, square feet, square sentiments, and square meters)
- Day 4: Assess and Reteach
- Day 5: I can use different techniques to determine the area of squares

Week 2:

- Day 6: I can use areas of rectangles to model the Distributive Property of Multiplication
- Day 7: I can find the area of irregular shapes by decomposing the shape into two or more non overlapping regular figures, often rectangles
- Day 8: I can solve real-life problems using structure to find the area of smaller parts to simplify the problem
- Day 9: Assess and Reteach

KEY VOCABULARY

- Area
- Unit Square
- Square Unit
- Estimate
- Fluently
- Product
- Dividend
- Fact
- Properties of Operation
- Surface
- Attributes
- Plane Figure
- Overlap
- Edge
- Square Centimeter
- Square Meter
- Square Inches
- Square Feet
- Rectangle
- Tilling
- Array
- Nonoverlapping
- Row
- Column
- Equivalent
- Width
- Dimension
- Multiplication
- Product
- Whole Number
- Addition
- Decompose

ESSENTIAL QUESTION(S)

- Unit 4
- Topic 6-How does area connect to multiplication and addition?

PRIOR KNOWLEDGE

- Partition a rectangle into rows and columns of same-size squares and count to find the total number of them
- Use concrete and pictorial representations and repeated addition, determine the total number of objects in a rectangular array with up to 5 rows and 5 columns
- Write and equation to express the total number of objects in a rectangular array with up to 5 rows and 5 columns as a sum of equal addends

FORMATIVE ASSESSMENT	SUMMATIVE ASSESSMENT

ACTIVITIES & RESOURCES		
Envision Resources	**Other Resources** 3.23 Proficiency Scales	**ACAP Resources**
RTI	**EXTENSION OPPORTUNITIES**	

UNIT 5: Represent and Interpret Data	DURATION: 1 week
CONTENT STANDARDS	
PRIORITY STANDARDS • **3.16** For a given or collected set of data, create a scaled (one-to-many) picture graph and scaled bar graph to represent a data set with several categories. • **3.16b** Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled graphs."	**SUPPORTING STANDARDS** • 3.3 Solve word situations using multiplication and division within 100 involving equal groups, arrays, and measurement quantities; represent the situation using models, drawings, and equations with a symbol for the unknown number. • 3.8 Determine and justify solutions for two-step word problems using the four operations and write an equation with a letter standing for the unknown quantity. Determine reasonableness of answers using number sense, context, mental computation, and estimation strategies including rounding.

KNOWLEDGE (students need to know):	SKILLS (students need to be able to do):	BLOOM'S TAXONOMY	QUAD	ACT
	Use graphs to compare and interpret data	Applying		
	Use frequency tables and picture graphs to compare and interpret data	Analyzing		
	Use scaled bar graphs to represent data sets	Applying		

	Use graphs to solve problems	Applying		

KEY COMPONENTS		
LEARNING TARGETS (incremental learning target by week) <u>Week 1</u> Day 1: I can use skip counting and multiplication to read scaled bar graphs and scaled picture graphs Day 2: I can use skip counting and multiplication to solve one- and two-step addition and subtraction problems Day 3: Assess and Reteach Day 4: I can create scaled picture graphs and scaled bar graphs and draw conclusions from data and graphs Day 5: I can create a bar graph and summarize the data set <u>Week 2</u> Day 6: Assess and Reteach Day 7: I can solve word problems by using graphs Day 8: Assess and Reteach	**KEY VOCABULARY** • Equal Groups • Arrays • Measurement division • Factor • Product • Quotient • Partitive Division • Represent • Unknown • Unknown Quantity • Mental Computation • Estimation • Variable • Reasonableness	• Rounding • Expression • Equation • Data Set • Scale • Picture Graph • Scaled Bar Graph • Category • Probability • Horizontal Axis • Vertical Axis • Pictorial Key
ESSENTIAL QUESTION(S) Unit 5 • Topic 7-How can data be represented, analyzed and interpreted?	**PRIOR KNOWLEDGE** • Interpreting picture graphs and bar graphs with single unit scales •	

FORMATIVE ASSESSMENT	SUMMATIVE ASSESSMENT

ACTIVITIES & RESOURCES		
<u>Envision Resources</u>	<u>Other Resources</u> 3.3 Proficiency Scales 3.8 Proficiency Scales	<u>ACAP Resources</u>
RTI	**EXTENSION OPPORTUNITIES**	

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UNIT 6: Add/Subtract Within 1000, Multiply by 10	DURATION: 3 weeks
CONTENT STANDARDS	
PRIORITY STANDARDS • **3.11** Use various strategies to add and subtract fluently within 1000. • **3.12** Determine and justify solutions for two-step word problems using the four operations and write an equation with a letter standing for the unknown quantity. Determine reasonableness of answers using number sense, context, mental computation, and estimation strategies including rounding.	SUPPORTING STANDARDS • **3.3** Solve word situations using multiplication and division within 100 involving equal groups, arrays, and measurement quantities; represent the situation using models, drawings, and equations with a symbol for the unknown number. • **3.5** Develop and apply properties of operations as strategies to multiply and divide. • **3.8** Determine and justify solutions for two-step word problems using the four operations and write an equation with a letter standing for the unknown quantity. Determine reasonableness of answers using number sense, context, mental computation, and estimation strategies including rounding. • **3.9** Recognize and explain arithmetic patterns using properties of operations. • **3.10** Identify the nearest 10 or 100 when rounding whole numbers, using place value understanding.

KNOWLEDGE (students need to know):	SKILLS (students need to be able to do):	BLOOM'S TAXONOMY	QUAD	ACT
	Use an efficient place value strategy to add and subtract within 1,000	Applying		
	Use the relationship between operations to add and subtract within 1,000	Applying		
	Use properties of operations to add and subtract within 1,000	Applying		
	Solve real world problems using properties of addition	Applying		
	Use rounding or compatible numbers to justify a sum and/or difference	Applying		

	Use patterns to find products when one factor is a multiple of 10	Applying		
	Use different strategies to find products when one factor is a multiple of 10	Applying		
	Use properties of multiplication to find products when one factor is a multiple of 10	Applying		

KEY COMPONENTS

LEARNING TARGETS (incremental learning target by week)

Week 1:

Day 1: I can add two 3-digit numbers by breaking apart problems into simpler problems
Day 2: I can use regrouping to add 3-digit numbers
Day 3: I can add three or more numbers using addition strategies
Day 4: Assess and Reteach
Day 5: I can use partial difference to subtract
Day 6: I can use regrouping to subtract
Day 7: Assess and Reteach
Day 8: I can use strategies to add 3-digit numbers and subtract a 3-digit number from another 3-digit number with one or more zeros
Day 9: I can use addition and subtraction to solve real world problems
Day 10: Assess and Reteach
Day 11: I can use place value to add 3 digit numbers
Day 12:I can use partial sums and regrouping to add 3-digit Numbers
Day 13: I can use partial differences to subtract
Day 14: Assess and Reteach
Day 15: I can use an open number line and patterns to find products when one factor is a multiple of 10
Day 16: I can use different strategies to identify a rule when multiplying by a multiple of 10
Day 17: I can use properties (place value, operations, and properties with multiplying by multiples of 10) combined
Day 18: Assess and Reteach

KEY VOCABULARY

- **Compatible Number**
- **Equal Groups**
- **Arrays**
- **Measurement Division**
- **Factor**
- **Product**
- **Quotient**
- **Partitive Division**
- **Represent**
- **Unknown**
- **Product**
- **Sum**
- **Property of Operation**
- **Multiplication Expression**
- **Decompose**
- **Array**
- **Area Model**
- **Unknown Quantity**
- **Mental Computation**
- **Estimation**
- **Reasonableness**
- **Rounding**
- **Expression**
- **Equation**
- **Fluently**
- **Sum**
- **Difference**
- **Place Value**
- **Strategy**
- **Arithmetic Pattern**
- **Starting Value**
- **Addition Table**
- **Multiplication Table**
- **Consecutive**
- **Term**
- **Decompose**
- **Place Value**
- **Round**
- **Nearest 10**
- **Nearest 100**
- **Midpoint**
- **Benchmark Number**
- **Multiply**
- **One-digit**
- **Multiple of 10**
- **Place Value**
- **Properties of Operation**

ESSENTIAL QUESTION(S)	PRIOR KNOWLEDGE
Unit 6 • Topic 8-How can sums and differences be estimated and found mentally? • Topic 9-What are procedures for adding and subtracting whole numbers? • Topic 10-What strategies can be used for multiplying by multiples of 10? • Topic 11-How can I use what I know about subtraction to subtract tens?	• Add and subtract within 100, using strategies based on place value and properties of operations, and/or relationship between addition and subtraction • Add within 1,000 using concrete models or drawings on place value • Use number lines to show multiplication • Use place-value blocks and open number lines to find patterns to multiply a 1-digit number by a multiple of 10 • Use the Associative Property of Multiplication and the Distributive Property • Solve subtraction facts with minuends through 10 • Use models to subtract 10 • Use models and a hundred chart to subtract a multiple of 10 from another multiple of 10 • Use an open number line to add tens and ones

FORMATIVE ASSESSMENT	SUMMATIVE ASSESSMENT

ACTIVITIES & RESOURCES		
Envision Resources	Other Resources 3.3 Proficiency Scales 3.5 Proficiency Scales 3.8 Proficiency Scales 3.11 Proficiency Scale	ACAP Resources
RTI	EXTENSION OPPORTUNITIES	

UNIT 7: Understand Equivalence & Comparison of Fractions (Denominators: 2, 3, 4, 6 and 8 including fractions greater than 1)	DURATION: 4 weeks
CONTENT STANDARDS	
PRIORITY STANDARDS • **3.13** Demonstrate that a unit fraction represents one part of an area model or length model of a whole that has been equally partitioned; explain that a numerator greater than one indicates the number of unit pieces represented by the fraction. • **3.14a** Represent a unit fraction 1/b on a number line by defining the interval from 0 to 1 as the whole and partitioning it into _b_ equal parts as specified by the denominator. • Represent a fraction *(a/b)* on a number line by marking off a lengths of size *(1/b)* from zero • **3.15a** Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers. • **3.15b** Compare two fractions with the same numerator or with the same denominator by reasoning about their size (recognizing that fractions must refer to the same whole for the comparison to be valid). Record comparisons using < , >, or = and justify conclusions.	**SUPPORTING STANDARDS** • **3.14** Interpret a fraction as a number on the number line; locate or represent fractions on a number line diagram. • **3.15** Explain equivalence and compare fractions by reasoning about their size using visual fraction models and number lines.

KNOWLEDGE (students need to know):	SKILLS (students need to be able to do):	BLOOM'S TAXONOMY	QUAD	ACT
	Use an area model and length model to show a unit fraction as one part of an equally partitioned whole	Applying		
	Explain that given a fraction with a numerator greater than one, the numerator indicates the number of unit fraction pieces represented by the fraction	Understanding		

Describe how the value of the denominator in a unit fraction affects the value of the fraction		**Understanding**		
Identify and describe the fractional name given a visual fraction model		**Understanding**		
	Identify and demonstrate fractional parts if a whole that are the same size but not the same shape using concrete materials	**Applying**		
	Use a number line and partition intervals from 0 to 1 into equal parts as specified by the denominator of a fraction	**Applying**		
	Use a number line and partition the interval between 0 and 1 into *b* equal parts and mark off lengths of 1/b unit fraction	**Applying**		
Represent and locate fractions on a number line		**Understanding**		
Identify the labeled point on a number line when given the fraction		**Understanding**		
Represent a non unit fraction on a number line by marking off unit fraction lengths as specified by the numerator from zero		**Understanding**		
	Extend the number line to include fractions greater than one as a continuation of counting unit fractions	**Applying**		
	Use a variety of area and length models to identify and generate equivalent fractions	**Applying**		
	Explain why two fractions are equivalent using models	**Analyzing**		
	Use visual representations to illustrate and explain fractions equivalent to whole numbers	**Applying**		

	Compare two fractions using visual fraction models (Explain that wholes are the same size)	Analyzing		
	Compare two fractions with the same numerator or same denominator, by reasoning about their size	Analyzing		
	Record fraction comparisons using <, >, or =.	Analyzing		

KEY COMPONENTS		
LEARNING TARGETS (incremental learning target by week) Week 1: Day 1: I understand that a unit fraction represents one part of a whole that has been divided into equal parts Day 2: I understand that a fraction represents multiple copies of a unit fraction Day 3: Assess and reteach Day 4: I understand that the whole can be found given fractional parts; One whole can be different sizes Day 5: I understand that points on a number line can represent fractions; The denominator represents the number of equal parts between 0 and 1; The numerator represents the number of parts between 0 and the point (halves, thirds, fourths, sixths, and eighths as distances from 0) Day 6: Assess and Reteach Day 7: I understand that a number line can be used to represent fractions greater than 1 (Denominators of 2, 3,4, 6, and 8) Day 8: I understand that equivalent fractions name the same amount and I can use a variety of objects and pictorial models to represent equivalent fractions Day 9: I can represent the same point on a number line by more than one equivalent fraction Day 10: Assess and Reteach Day 11: I can use fraction strips to find equivalent fractions Day 12: I can use fraction strips to compare two fractions that have the same denominator Day 13: Assess and Reteach Day 14: I can use benchmark numbers such as 0, ½, and 1 to compare fractions Day 15: I can use a number line to compare fractions.	KEY VOCABULARY • Fraction • Numerator • Denominator • Divide • Part • Whole • Unit Fraction • Partition • Equally-Sized Parts • Shape • Decompose • Number Line	• Number Line Diagram • Intervals • Point • Tick Marks • Unit Fraction • Value • Compare • Greater Than • Less Than • Equal • Fraction Model

Day 16: I understand that whole numbers can be represented by many different fraction names (Ex. 4/4=1) **Day 17: Assess and Reteach**		
ESSENTIAL QUESTION(S) **Unit 8** ● **Topic 12-What are different interpretations of a fraction?** ● **Topic 13-What are different ways to compare fractions?**	**PRIOR KNOWLEDGE** ● **Identify parts of a whole with two, three, or four equal shares** ● **Name equal and non-equal parts** ● **Partition circles and rectangles into two, three or four equal shares and describe the shares as halves, thirds, fourths and quarters** ● **Explain that equal shares of identical wholes need not have the same shape** ● **Explain that denominators represent the number of equal size parts that make a whole** ● **Explain that the numerator represents the number of number of equal pieces in the whole that are being counted or considered** ● **Explain that the more equal pieced in the whole, the smaller the size of pieces** ● **Use concrete materials to demonstrate an understanding that given the same size whole, the larger the denominator, the smaller the size of the pieces because there are more pieces in the whole that are counted** ● **Represent a fraction on a number line** ● **Understand that two fractions are equivalent if they are the same size or the same point on the number line** ● **Use <.>, and = signs to compare whole numbers** ● **Partition a rectangle into rows and columns of same size squares and count to find the total number of squares** ● **Partition a whole into equal size parts (circles and rectangles into equal halves, fourths and thirds)** ●	

FORMATIVE ASSESSMENT	**SUMMATIVE ASSESSMENT**

ACTIVITIES & RESOURCES		
Envision Resources	**Other Resources**	**ACAP Resources**

	3.13 Proficiency Scales 3.14 Proficiency Scales 3.15a Proficiency Scales 3.15b Proficiency Scales	
RTI	**EXTENSION OPPORTUNITIES**	

UNIT 8: Solve Time, Capacity and Mass Problems	DURATION: 3 weeks
CONTENT STANDARDS	
PRIORITY STANDARDS • **3.18** Tell and write time to the nearest minute; measure time intervals in minutes (within 90 minutes.) • **3.19** Estimate and measure liquid volumes and masses of objects using liters (l), grams (g), and kilograms (kg).	SUPPORTING STANDARDS • **3.7a** Fluently determine all products obtained by multiplying two one-digit numbers. • **3.7b** State automatically all products of two one-digit numbers by the end of third grade. • **3.18a** Solve real-world problems involving addition and subtraction of time intervals in minutes by representing the problem on a number line diagram. • **3.19a** Use the four operations to solve one-step word problems involving masses or volumes given in the same metric units.

KNOWLEDGE (students need to know):	SKILLS (students need to be able to do):	BLOOM'S TAXONOMY	QUAD	ACT
Read and write time to the nearest minute from analog and digital clocks		Understanding		
	Measure time intervals in minutes (within 90 minutes)	Applying		
	Select and apply methods for showing elapsed time to solve word problems using addition and subtraction on a number line diagram	Analyzing		
	Measure the liquid volume of objects by selecting and using the appropriate tool and units of measure (Liters (l) and milliliters (mL)	Applying		
	Determine the volume of mass shown in an image	Applying		
	Solve word problem involving liquid volume or mass measurements	Applying		

KEY COMPONENTS		
LEARNING TARGETS (incremental learning target by week) **Week 1:** **Day 1-2: I can use my knowledge of counting by 5's to tell time to the nearest minute** **Day 3: Assess and Reteach** **Day 4-5: I can find the elapsed time by finding the total amount of time that has passed between a starting time and an ending time** **Day 6: Assess and Reteach** **Day 7-8: I can solve problems involving addition and subtraction of time intervals in minutes by using pictorials models or tools such as bar diagrams, number lines, and tables** **Day 9: Assess and Reteach** **Day 10: I can measure capacity (liter)** **Day 11: I can measure mass (Kilogram and gram)** **Day 12: Assess and Reteach** **Day 13: I can solve word problems involving mass and liquid volume** **Day 14: Assess and Reteach**	**KEY VOCABULARY** • **Elapsed Time** • **Time Intervals** • **Capacity liquid(volume)** • **Liter** • **Mass** • **Gram** • **Kilogram** • **Equal Groups** • **Arrays** • **Measurement Division** • **Factor** • **Product** • **Quotient** • **Partitive Division** • **Represent** • **Unknown** • **Fluently** • **Sum**	• **Difference** • **Place Value** • **Strategy** • **Base-10 Blocks** • **Mult-Digit** • **Properties of Operation** • **Algorithm** • **Analog Clock** • **Intervals** • **Number Line** • **Quarter of the Whole** • **Quarter Past the Hour** • **Tick Marks** • **Volume** • **Matter** • **Dividend** • **Fact**
ESSENTIAL QUESTION(S) **Unit 9** • **Topic 14-How can time, capacity, and mass be measured and found?**	**PRIOR KNOWLEDGE** • **Demonstrate the purpose of a clock and its features** • **Draw a number line using whole numbers (Skip count by 5's)** • **Tell time to the nearest 5 minutes** • **Recall basic addition, subtraction, multiplication and division facts** • **Recognize how units of measurement compare to each other** • **Know the names of measurement tools**	

FORMATIVE ASSESSMENT	SUMMATIVE ASSESSMENT

ACTIVITIES & RESOURCES		
Envision Resources	**Other Resources** 3.3 Proficiency Scales 3.11 Proficiency Scales 3.18 Proficiency Scales 3.19 Proficiency Scales	**ACAP Resources**
RTI	**EXTENSION OPPORTUNITIES**	

UNIT 9: Attributes of Two-Dimensional Shapes	DURATION: 1 week
CONTENT STANDARDS	
PRIORITY STANDARDS • **3.26 Recognize and describe polygons (up to 8 sides), triangles, and quadrilaterals (rhombuses, rectangles, and squares) based on the number of sides and the presence or absence of square corners.** • **3. 26a Draw examples of quadrilaterals that are and are not rhombuses, rectangles, and squares.**	**SUPPORTING STANDARDS** • **3.13** Demonstrate that a unit fraction represents one part of an area model or length model of a whole that has been equally partitioned; explain that a numerator greater than one indicates the number of unit pieces represented by the fraction. • 3.17 Measure lengths using rulers marked with halves and fourths of an inch to generate data and create a line plot marked off in appropriate units to display the data

KNOWLEDGE (students need to know):	SKILLS (students need to be able to do):	BLOOM'S TAXONOMY	QUAD	ACT
	Describe, analyze and compare attributes of 2-D shapes (number of sides, equal sides, square corners, opposite sides, side lengths)	Analyzing		
	Identify shapes that are and are not quadrilaterals	Analyzing		

KEY COMPONENTS		
LEARNING TARGETS (incremental learning target by week) Week 1: Day 1: I can name different quadrilaterals Day 2-3: I can classify shapes by numbers of sides, equal sides, and sides that are on lines that never cross; size of angles and concavity versus convexity Day 4: I can compare different quadrilaterals (squares, rectangles, rhombuses, parallelograms, trapezoids, and nonspecific quadrilaterals) Day 5: Assess and Reteach	**KEY VOCABULARY** • Polygon • Sides • Quadrilateral • Angles • Vertex • Trapezoid • Parallelogram • Rectangle • Right Angle • Rhombus • Square • Convex • Concave • Fracton • Denominator • Numerator	• Divide • Part • Whole • Unit Fraction • Partition • Equally-Sized Parts • Shape • Decompose • Shape • Attributes • Category • SubCategory • Opposite Sides • Dimension
ESSENTIAL QUESTION(S) Unit 10 • Topic 15-How can two-dimensional shapes be described, analyzed, and classified?	**PRIOR KNOWLEDGE** • Recognize common shapes based on the number of sides • Build and draw shapes having a specified number of attributes (sides and angles) • Recognize shapes of different attributes • Sort shapes by attributes	

FORMATIVE ASSESSMENT	SUMMATIVE ASSESSMENT

ACTIVITIES & RESOURCES		
Envision Resources	Other Resources 3.13 Proficiency Scales 3.26 Proficiency Scales	ACAP Resources
RTI	**EXTENSION OPPORTUNITIES**	

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UNIT 10: Distinguish Between Perimeter and Area of Shapes	DURATION: 2 weeks

CONTENT STANDARDS

PRIORITY STANDARDS	SUPPORTING STANDARDS
• **3.24** Construct rectangles with the same perimeter and different areas or the same area and different perimeters. • **3.25** Solve real-world problems involving perimeters of polygons, including finding the perimeter given the side lengths and finding an unknown side length of rectangles.	• **3.3** Solve word situations using multiplication and division within 100 involving equal groups, arrays, and measurement quantities; represent the situation using models, drawings, and equations with a symbol for the unknown number. • **3.7a** Fluently determine all products obtained by multiplying two one-digit numbers. • **3.7b** State automatically all products of two one-digit numbers by the end of third grade. • **3.8** Determine and justify solutions for two-step word problems using the four operations and write an equation with a letter standing for the unknown quantity. Determine reasonableness of answers using number sense, context, mental computation, and estimation strategies including rounding. • **3.11** Use various strategies to add and subtract fluently within 1000.

KNOWLEDGE (students need to know):	SKILLS (students need to be able to do):	BLOOM'S TAXONOMY	QUAD	ACT
	Find the perimeter of different polygons	Applying		
	Find the perimeter when some side lengths are missing	Applying		

KEY COMPONENTS

LEARNING TARGETS (incremental learning target by week)	KEY VOCABULARY	
Week 1: Day 1: I can count unit segments around a polygon to find its perimeter Day 2-3: I can add the given lengths to find the perimeter; I can find the	• Perimeter • Equilateral Triangle • Equal Groups	• Expression • Equation • Fluently

missing side length of a polygon using a given perimeter and the lengths of the remaining sides Day 4: Assess and Reteach	• Arrays • Measurement Division • Factors • Product • Quotient • Partitive Division • Represent • Unknown • Unknown Quantity • Mental Computation • Estimation • Variable • Reasonableness • Rounding	• Sum • Difference • Place Value • Strategy • Fluently • Dimension • Perimeter • Two-Dimensional • Area • Equivalent • Dividend • Fact • Properties of Operation
ESSENTIAL QUESTION(S) Unit 11 • Topic 16-How can perimeter be measured and found?	PRIOR KNOWLEDGE • Understand perimeter as an attribute of polygons • Distinguish between perimeter and area • Use addition and multiplication facts to compute perimeter • Definitions and attributes of common shapes	

FORMATIVE ASSESSMENT	SUMMATIVE ASSESSMENT

ACTIVITIES & RESOURCES		
Envision Resources	Other Resources 3.3 Proficiency Scales 3.8 Proficiency Scales 3.11 Proficiency Scales	ACAP Resources
RTI	EXTENSION OPPORTUNITIES	

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