Curriculum Map

Course Title: Math **Grade:** 4th

Unit (Name/Number): Algebraic Concepts	**Pacing:** Refer to RCC pacing guide
Essential Question(s): How do you generalize and analyze patterns, in the four operations, to solve problems with whole numbers?	

Content/Key Concepts (Eligible Content)	**Standards**	**Key Vocabulary**	**Learning Activities/Resources**	**Evidence of Learning** (Assessments; Performance Tasks)
Multiplication and Division: Meanings and Facts **M04.B-O.1.1.1 Interpret a multiplication equation as a comparison. Represent verbal statements of multiplicative comparisons as multiplication equations. Example 1: Interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Example 2: Know that the statement 24 is 3 times as many as 8 can be represented by the equation 24 = 3 × 8 or 24 = 8 × 3.** **M04.B-O.1.1.2 Multiply or divide to solve word problems involving multiplicative comparison, distinguishing multiplicative comparison from additive comparison. Example: Know that 3 × 4 can be used to represent that Student A has 4 objects and Student B has 3 times as many objects not just 3 more objects.** **M04.B-O.1.1.3 Solve multi-step word problems posed with whole numbers using the four operations. Answers will be either whole numbers or have remainders that must be interpreted yielding a final answer that is a whole number. Represent these problems using equations with a symbol or letter standing for the**	**Common Core** 4.OA.1, 4.OA.2, 4.OA.3, 4.OA.4 **PA Core Standards** CC.2.2.4.A.1, CC.2.2.4.A.2,	**imperative to use exact vocabulary:** ● breaking apart ● factor ● factor pair ● product ● multiples ● array ● inverse operations ● unknown ● symbol ● fact family ● equation ● multiplicative comparison ● composite ● prime ● expression ● remainder ● reasonable	***use calculators at teacher's discretion** *Utilize generalizations and analyze patterns, within the four operations, to solve problems with whole numbers.* **Lesson 5:** Understand Multiplication **(M)** **Lesson 6:** Multiplication and Division in Word Problems **(M)** **Lesson 7:** Multiples and Factors **(S/A)** Sample Assessment Questions SAS Materials/Resources **Lesson 9:** Model Multi-Step Problems **(M)** **Lesson 10:** Solve Multi-Step Problems **(M)** Sample Assessment Questions SAS Materials/Resources	**Assessment Options:** RCC Quizzes RCC Mid-Unit Assessments RCC Interim Assessment **District Requirement:** RCC Unit Assessments **Extension Activities:** Math in Action ***Practice Standard 5: use of calculators appropriate** **Practice Standards:** **Understand Multiplication** 2,3,4 **Multiplication and Division in Word Problems** 2,3,4,5,7 **Multiples and Factors** 2,5,7 **Model Multi-Step Problems** 1,2,4,5,6,7 **Solve Multi-Step Problems** 1,2,4,5,6,7 **Numbers and Shape**

unknown quantity. **M04.B-O.1.1.4 Identify the missing symbol (+, –, ×, ÷, =, <, and >) that makes a number sentence true (single-digit divisor only).** **M04.B-O.2.1.1 Find all factor pairs for a whole number in the interval 1 through 100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the interval 1 through 100 is a multiple of a given onedigit number. Determine whether a given whole number in the interval 1 through 100 is prime or composite.** **<u>Generate and Analyze Patterns</u>** **M04.B-O.3.1.1 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. Example 1: Given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms alternate between odd and even numbers. Example 2: Given the rule "increase the number of sides by 1" and starting with a triangle, observe that the tops of the shapes alternate between a side and a vertex.** **M04.B-O.3.1.2 Determine the missing elements in a function table (limit to +, –, or × and to whole numbers or money).** **M04.B-O.3.1.3 Determine the rule for a function given a table (limit to +, –, or × and to whole numbers).**	**<u>Common Core</u>** 4.OA.5 **<u>PA Core Standards</u>** CC.2.2.4.A.4	**Imperative to use exact vocabulary:** ● rule ● pattern	**Lesson 8:** Numbers and Shape Patterns **(S/A)** Sample Assessment Questions SAS Materials/Resources	**Patterns** 2,3,4,5,7

M = lessons that have a **major emphasis** in the Common Core Standards

S/A = lessons that have **supporting/additional** emphasis in the Common Core Standards