i-Ready Classroom Mathematics

to the

2021 Tennessee Academic Standards for Mathematics

Grade 3

2021 Tennessee Academic Standards for Mathematics Grade 3		i-Ready Classroom Mathematics Lessons Grade 3
GRADE 3		
3.OA	**Operations and Algebraic Thinking (OA)**	
3.OA.A	Represent and solve problems involving multiplication and division.	
3.OA.A.1	Interpret the factors and products in whole number multiplication equations *(e.g., 4 x 7 is 4 groups of 7 objects with a total of 28 objects or 4 strings measuring 7 inches each with a total of 28 inches.)*	**Lesson 4:** *Understand* the Meaning of Multiplication **Additional Content:** Lesson 8: Use Order and Grouping to Multiply; Lesson 9: Use Place Value to Multiply; Lesson 19: Scaled Graphs
3.OA.A.2	Interpret the dividend, divisor, and quotient in whole number division equations (*e.g., 28 ÷ 7 can be interpreted as 28 objects divided into 7 equal groups with 4 objects in each group or 28 objects divided so there are 7 objects in each of the 4 equal groups*).	**Lesson 10:** *Understand* the Meaning of Division **Math in Action:** pp. 284-294
3.OA.A.3	Multiply and divide within 100 to solve contextual problems, with unknowns in all positions, in situations involving equal groups, arrays/area,, and measurement quantities using strategies based on place value, the properties of operations, and the relationship between multiplication and division (*e.g., contexts including computations such as 3 x ? = 24, 6 x 16 = ?, ? ÷ 8 = 3, or 96 ÷ 6 = ?*)	**Lesson 5:** Multiply with 0, 1, 2, 5, and 10 **Lesson 6:** Multiply with 3, 4, and 6 **Lesson 7:** Multiply with 7, 8, and 9 **Lesson 17:** Solve One-Step Word Problems Using Multiplication and Division **Additional Content**: Lesson 4: *Understand* the Meaning of Multiplication; Lesson 8: Use Order and Grouping to Multiply; Lesson 12: Multiplication and Division Facts; Lesson 15: Multiply to Find Area; Lesson 16: Add Areas; Lesson 18: Solve Two-Step Word Problems Using the Four Operations; Lesson 19: Scaled Graphs; Lesson 28: Liquid Volume; Lesson 29: Mass; Lesson 32: Area and Perimeter of Shapes **Math in Action:** pp. 284-294 & pp. 442-452

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3.OA.A.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers within 100. *For example, determine the unknown number that makes the equation true in each of the equations: 8 x ? = 48, 5 = ? ÷ 3, 6 x 6 =?*	**Lesson 12:** Multiplication and Division Facts **Additional Content:** Lesson 17: Solve One-Step Word Problems Using Multiplication and Division; Lesson 18: Solve Two-Step Word Problems Using the Four Operations **Math in Action: Unit 2** pp. 284-294
3.OA.B	Understand properties of multiplication and the relationship between multiplication and division.	
3.OA.B.5	Apply properties of operations as strategies to multiply and divide. (Students need not use formal terms for these properties.) *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)*	**Lesson 5:** Multiply with 0, 1, 2, 5, and 10 **Lesson 6:** Multiply with 3, 4, and 6 **Lesson 7:** Multiply with 7, 8, and 9 **Lesson 8:** Use Order and Grouping to Multipy **Additional Content:** Lesson 9: Use Place Value to Multiply; Lesson 10: *Understand* the Meaning of Division; Lesson 12: Multiplication and Division Facts; Lesson 16: Add Areas
3.OA.B.6	Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*	**Lesson 11:** *Understand* How Multiplication and Division Are Connected **Additional Content:** Lesson 12: Multiplication and Division Facts; Lesson 17: Solve One-Step Word Problems Using Multiplication and Division **Math in Action: Unit 2** pp. 284-294

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3.OA.C	Multiply and divide within 100.	
3.OA.C.7	Fluently multiply and divide within 100, using strategies such as the properties of operations or the relationship between multiplication and division (*e.g., knowing that 8 x 5 = 40, one knows 40 ÷ 5 = 8*). By the end of 3rd grade, know all products of two one-digit numbers and related division facts.	**Lesson 5:** Multiply with 0, 1, 2, 5, and 10 **Lesson 6:** Multiply with 3, 4, and 6 **Lesson 7:** Multiply with 7, 8, and 9 **Lesson 12:** Multiplication and Division Facts **Additional Content:** Lesson 9: Use Place Value to Multiply; Lesson 17: Solve One-Step Word Problems Using Multiplication and Division; Lesson 18: Solve Two-Step Word Problems Using the Four Operations; Lesson 28: Liquid Volume; Lesson 29: Mass; Lesson 32: Area and Perimeter of Shapes **Math in Action: Unit 2** pp. 284-294
3.OA.D	Solve problems involving the four operations, and identify and explain patterns in arithmetic.	
3.OA.D.8	Solve two-step contextual problems 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	**Lesson 18:** Solve Two-Step Word Problems Using the Four Operations **Math in Action: Unit 3** pp. 442-452

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3.OA.D.9	Identify patterns in a multiplication chart and explain them using properties of operations. *For example, in the multiplication chart, observe that 4 times a number is always even (because 4 x 6 = (2 x 2) x 6 = 2 x (2 x 6), which uses the associative property of multiplication) or, for example, observe that 6 times 7 is one more group of 7 than 5 times 7 (because 6 x 7 = (5 + 1) x 7 = (5 x 7) + (1 x 7), which uses the distributive property of multiplication over addition).*	**Lesson 13:** *Understand* Patterns
3.NBT	**Number and Operations in Base Ten (NBT)**	
3.NBT.A	Use place value understanding and properties of operations to perform multi-digit arithmetic.	
3.NBT.A.1	Round whole numbers to the nearest 10 or 100 using understanding of place value and use a number line to explain how the number was rounded.	**Lesson 1:** Use Place Value to Round Numbers **<u>Additional Content:</u>** Lesson 2: Add Three-Digit Numbers; Lesson 3: Subtract Three-Digit Numbers; Lesson 18: Solve Two-Step Word Problems Using the Four Operations
3.NBT.A.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.	**Lesson 2:** Add Three-Digit Numbers **Lesson 3:** Subtract Three-Digit Numbers **<u>Additional Content:</u>** Lesson 18: Solve Two-Step Word Problems Using the Four Operations; Lesson 28: Liquid Volume; Lesson 29: Mass
3.NBT.A.3	Multiply one-digit whole numbers by multiples of 10 in the range 10–90 *(e.g., 9 x 80, 5 x 60)* using strategies based on place value and properties of operations.	**Lesson 9:** Use Place Value to Multiply

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3.NBT.A.4	Read and write multi-digit whole numbers (less than or equal to 100,000) using standard form, word form, and expanded form (*e.g., 23,456 can be written as 20,000 + 3,000 + 400 + 50 + 6*).	**One-Day Activity:** Read and Write Numbers Through 100,000
3.NF	**Number and Operations—Fractions (NF)**	
3.NF.A	Develop understanding of fractions as numbers.	
3.NF.A.1	Understand a fraction, 1/*b* , as the quantity formed by 1 part when a whole is partitioned into *b* equal parts; understand a non-unit fraction, n/b, as the quantity formed by n parts of size 1/b. *For example, 3/4 represents a quantity formed by 3 parts of size 1/4.*	**Lesson 20:** *Understand* What a Fraction Is **<u>Additional Content:</u>** Lesson 21: *Understand* Fractions on a Number Line; Lesson 22: *Understand* Equivalent Fractions; Lesson 24: *Understand* Comparing Fractions; Lesson 33: Partition Shapes into Parts with Equal Areas
3.NF.A.2	Understand a fraction as a number on the number line. Represent fractions on a number line.	
3.NF.A.2a	Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size 1/b and that the endpoint locates the number 1/b on the number line. *For example, on a number line from 0 to 1, students can partition it into 4 equal parts and recognize that each part represents a length of 1/4 and the first part has an endpoint at 1/4 on the number line.*	**Lesson 21:** *Understand* Fractions on a Number Line **<u>Additional Content:</u>** Lesson 22: *Understand* Equivalent Fractions; Lesson 23: Find Equivalent Fractions; Lesson 24: *Understand* Comparing Fractions; Lesson 25: Use Symbols to Compare Fractions; Lesson 26: Measure Length and Plot Data on Line Plots

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3.MD.C	Geometric measurement: understand and apply concepts of area and relate area to multiplication and to addition.	
3.MD.C.5	Recognize that plane figures have an area and understand concepts of area measurement.	
3.MD.C.5a	Understand that a square with side length 1 unit, called "a unit square," is said to have "one square unit" of area and can be used to measure area.	**Lesson 14:** *Understand* Area
3.MD.C.5b	Understand that a plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.	**Lesson 14:** *Understand* Area
3.MD.C.6	Measure areas by counting unit squares (square centimeters, square meters, square inches, square feet, and improvised units).	**Lesson 14:** *Understand* Area **Additional Content:** Lesson 15: Multiply to Find Area
3.MD.C.7	Relate area to the operations of multiplication and addition.	
3.MD.C.7a	Find the area of a rectangle with whole-number side lengths by tiling it and show that the area is the same as would be found by multiplying the side lengths.	**Lesson 15:** Multiply to Find Area **Additional Content:** Lesson 16: Add Areas; Lesson 17: Solve One-Step Word Problems Using Multiplication and Division; Lesson 32: Area and Perimeter of Shapes
3.MD.C.7b	Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real-world and mathematical problems and represent whole-number products as rectangular areas in mathematical reasoning.	**Lesson 15:** Multiply to Find Area **Additional Content:** Lesson 16: Add Areas; Lesson 17: Solve One-Step Word Problems Using Multiplication and Division; Lesson 32: Area and Perimeter of Shapes