Mohawk Local Schools   Grade Math-Third Grade
Quarter-One   Curriculum Guide

<u>Mathematical Practices</u>
1. Make Sense of Problems and Persevere in Solving them
2. Reasoning Abstractly & Quantitatively
3. Construct Viable Arguments and Critique the Reasoning of Others
4. Model with Mathematics
5. Use Appropriate Tools Strategically
6. Attend to Precision
7. Look for and Make use of Structure
8. Look for and Express Regularity in Repeated Reasoning

Critical Areas of Focus Being Addressed:
- o   Multiplication and Division
- o   Number and Operations
- o   Geometry
- o   Fractions

Content Statements Addressed and Whether they are Knowledge, Reasoning, Performance Skill, or Product: (DOK1) (DOK2) (DOK3) (DOK4)	Underpinning Targets Corresponding with Standards and Whether they are Knowledge, Reasoning, Performance Skill, or Product: "I can…..", "Students Will Be Able To……."
3.OA.1-Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. (Note: These standards are written with the convention that *a* x *b* means *a* groups of *b* objects each; however, because of the commutative property, students may also interpret 5 x 7 as the total number of objects in 7 groups of 5 objects each). (DOK 2)	-Find the product of multiple groups of objects. -Interpret products of whole numbers as a total number of objects in a number of groups.
3.OA.2-Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷	-Know what the numbers in a division problem represent. -Explain what division means and how it relates to equal shares. Interpret quotients as the number of shares or the number of groups when a set of objects is divided equally.

8.(DOK 2)	
3.OA.3-Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. Drawings need not show details, but should show the mathematics in the problem. (This applies wherever drawings are mentioned in the Standards.) (DOK2)	-Multiply and divide within 100. -Solve word problems in situations involving equal groups, arrays, and measurement quantities. -Represent a word problem using a picture, an equation with a symbol for the unknown number, or in other ways.
3.OA.4-Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 \times \square = 48$, $5 = \square \div 3$, $6 \times 6 = \square$.(DOK 2)	-Multiply and divide within 100. -Determine which operation (multiplication or division) is needed to determine the unknown whole number. -Solve to find the unknown whole number in a multiplication or division equation.
3.OA.5-. Apply properties of operations as strategies to multiply and divide. Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.); Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.) Students need not use formal terms for these properties. (DOK 2)	-Multiply and divide within 100. -Explain how the properties of operations work. Apply properties of operations as strategies to multiply and divide.
3.OA.6-Understand division as an unknown-factor problem. For example, find $32 \div 8$ by finding the number that makes 32 when multiplied by 8.(DOK 2)	-Identify the multiplication problem related to the division problem. Identify the unknown factor in the related multiplication problem. -Use multiplication to solve division problems. Recognize multiplication and division as related operations and explain how they are related.
3.OA.7-Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division, e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$, or properties of operations. Limit to division without remainders. By the end of Grade 3, know from memory all products of two one-digit numbers. (DOK 3)	-Know from memory all products of two one-digit numbers. -Analyze a multiplication or division problem in order to choose an appropriate strategy to fluently multiply or divide within 100.
3.OA.8-Solve two-step word problems using the four operations. Represent these problems using equations with a letter or a symbol, which stands for the unknown	-Know the order of operations (without parentheses). Know strategies for estimating.

quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. This standard is limited to problems posed with whole numbers and having whole-number answers. Students may use parentheses for clarification since algebraic order of operations is not expected.(DOK 2)	-Construct an equation with a letter standing for the unknown quantity. -Solve two-step word problems using the four operations. -Justify your answer using various estimation strategies.
3.OA.9-Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.(DOK 2)	-Identify arithmetic patterns (such as even and odd numbers, patterns in an addition table, patterns in a multiplication table, patterns regarding multiples and sums). -Explain rules for a pattern using properties of operations. (Properties of operations, glossary page 90 Common Core State Standards). -Explain relationships between the numbers in a pattern.
3.NBT.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.(DOK 2)	-Know strategies to multiply one-digit numbers by multiples of 10 (up to 90). -Apply knowledge of place value to multiply one-digit whole numbers by multiples of 10 in the range 10-90.