

Grade: 4 Subject: Mathematics	Unit 7: Multi-Digit Division
Big Idea/Rationale:	<ul style="list-style-type: none"> • This unit develops the concept of division of large numbers, with and without remainders. The activities help students gain a practical understanding of methods of division and the role of estimation in determining quotients. Students also consolidate their understanding of expressions, equations, and inequalities as they learn algebraic notation and properties to evaluate expressions and solve one and two step equations.
Enduring Understanding (Mastery Objective):	<p>Students will understand that:</p> <ul style="list-style-type: none"> • Models can be used to explore what happens when a group is separated into smaller groups, and there are remainders. • A quantity can be represented numerically various ways. Problem solving depends upon choosing wise ways. • Numeric fluency includes both the understanding of and the ability to appropriately. • In many cases there are multiple algorithms for finding a mathematical solution. • Computational fluency includes understanding not only the meaning, but also the appropriate use of numerical operations. • Answers to problems should always be checked for reasonableness and this can be done through estimation. • Multiplication and division have an inverse relationship. • The inverse relationship between multiplication and division can be used to find division facts.
Essential Questions (Instructional Objective):	<ul style="list-style-type: none"> • How can you use place value and patterns to divide mentally? • What does it mean when you divide and some are left over? • How does place value help you decide where to start dividing? • How do mathematical ideas interconnect and build on one another to produce a coherent whole? • How can we compare and contrast numbers? • How can you show that division can be thought of as repeated subtraction or sharing equally? • How are multiplication and division related? • How can the inverse relationship between multiplication and division be used to find facts?
Content (Subject Matter & Learning Objectives):	<ul style="list-style-type: none"> • Understand real-world division situations. • Understand the meaning of remainders. • Understand real-world division situations. • Understand division with four-digit and five-digit dividends. • Determine the correct-size multiplier for a division quotient. • Understand how to estimate the size of a division answer in order to check

	<p>its accuracy.</p> <ul style="list-style-type: none"> • Understand different ways to interpret remainders in division. • Solve word problems with mixed operations. • Understand the meaning of a set of data and how to calculate it. • Understand and apply mean, median, and mode as measures of central tendency in word problems and in bar graphs. • Understand range determine range from a bar graph. • Understand and generalize a pattern of products and quotient when multiplying by powers of 10. • Recognize hours and minutes on a clock face. • Reade and write time, using analog and digital clocks. • Demonstrate an understanding of properties and algebraic notation. Apply an understanding of the order of operations to evaluate expressions and solve equations. • Choose expressions and inequalities to represent situations, and write situations to represent expressions and inequalities. • Solve one-and two-step equations. • Solve a variety of problems using mathematical concepts and skills.
<p>Standards</p>	<ul style="list-style-type: none"> • 4.OA.A.3: Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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. • 4.OA.A.5: 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. • 4.NBT.B.6: Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangle arrays, and/or area models. • 4.MD.A.1: Knowing relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. • 4MD.A.2: Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

	<ul style="list-style-type: none">• Mathematical Practices
Materials and Resources	<ul style="list-style-type: none">• Math Expressions, Student Journals, Manipulatives, Math themed literature, BrainPop, IXL Mathematics