Dear Fifth Grade Families,

We are about to begin our 2nd Module in Mathematics. In this letter we will share a grade-specific overview of the year, as well as information about our current module.

**Summary of the Year**

Our Fifth Grade students will be engaged in mathematics that will focus on:

(1) Developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions);

(2) Extending division to two-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number decimal operations;

(3) Developing understanding of volume.

The learning goal for each student is to *achieve mastery by the end of the school year*. Along the way teachers and students will celebrate what the students can do now and identify what the students need to work on next.

**A Story of Units**

The yearly curriculum is broken into modules, (units), whose sequence is as follows:

Module 1: Place Value and Decimal Fractions

**Module 2: Multi-Digit Whole Number and Decimal Fraction Operations**

Module 3: Addition and Subtraction of Fractions

Module 4: Multiplication and Division of Fractions and Decimal Fractions

Module 5: Addition and Multiplication with Volume and Area

Module 6: Problem Solving with the Coordinate Plane

**Module 2: Overview**

Module 2 begins by using place value patterns and the distributive and associative properties to multiply multi-digit numbers by multiples of 10 and leads to fluency with multi-digit whole number multiplication.79 For multiplication, students must grapple with and fully understand the distributive property (one of the key reasons for teaching the multi-digit algorithm). While the multi-digit multiplication algorithm is a straightforward generalization of the one-digit multiplication algorithm, the division algorithm with two-digit divisors requires far more care to teach because students have to also learn estimation strategies, error correction strategies, and the idea of successive approximation (all of which are central concepts in math, science, and engineering).

Please see reverse side for specific Module 2 objectives.

If at any time throughout Module 2 you have questions or concerns regarding your child’s progress please feel free to contact his or her teacher.

Sincerely,

MUFSD 5th Grade Teachers

**Module 2: Objectives**

The following objectives will be addressed in Module 2, however many are ongoing and will reappear in future modules.

* Use parentheses, brackets, or braces to group an expression within a multi-step numerical expression,
* Evaluate numerical expressions with parentheses, brackets, or braces.
* Represent a calculation expressed verbally with a numerical expression.
* Analyze expressions without solving.
* Recognize that each place to the left is 10 times larger in a multi-digit number.
* Recognize that each place to the right is 1/10 as much in a multi-digit number.
* Express powers of 10 using whole-number exponents.
* Illustrate and explain a pattern for how the number of zeros of a product-- when multiplying a whole number by a power of ten-- relates to the power of ten.
* Illustrate and explain a pattern for how multiplying or dividing any decimal by a power of ten relates to the placement of the decimal point.
* Explain the standard algorithm for multi-digit whole number multiplication.
* Use the standard algorithm to multiply multi-digit whole numbers with ease.
* Demonstrate division of a whole number with four-digit dividends and two-digit divisors using place value, rectangular arrays, area model, and other strategies.
* Solve division of a whole number with four-digit dividends and two-digit divisors using properties of operations and equations.
* Explain a strategy.
* Add, subtract, multiply, and divide decimals to hundredths using strategies based on place value, properties of operations, or other strategies.
* Explain and illustrate strategies using concrete models or drawings when adding, subtracting, multiplying, and dividing decimals to hundredths.
* Convert measurement units within the same measurement system.
* Solve multi-step word problems using measurement conversions.