This document is being produced for the purpose of giving parents and students in Calcasieu Parish a better understanding of the math concepts being taught.

**Louisiana Standards:**
- Interpret a multiplication equation as a comparison, e.g., interpret \(35 = 5 \times 7\) as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
- Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
- 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.
- Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.
- Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
- 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, rectangular arrays, and/or area models.
- Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

**Words to Know:**
- Area \((l \times w)\)
- Array
- Area Model
- Factor
- Product
- Multiple
- Multiplication
- Partial Product
- Divisor
- Quotient
- Remainder
- Division
- Equation
- Compare
- Distribute
- Perimeter \(2(l + w)\)
- \(l\) (length)
- \(w\) (width)
Using a Place Value Chart to Multiply

Start by creating a number disk to represent 1 one (the black circle). The 1 is being multiplied by 10. That can be shown by circling it and moving it, as a whole, to the tens place. It is now 1 ten.

The problem (1 x 10) could also be shown as 1 group of 10 ones. 10 ones = 1 ten.

The same concept applies when multiplying 15 x 10. Draw 15 on the place value chart as 1 ten 5 ones. Multiply 5 ones by 10 to get 5 ten. Multiply 1 ten by 10 to get 1 hundred. Therefore, 15 x 10 = 150.

Using Partial Products to Multiply

The Partial Products strategy is based on the Distributive Property and resembles the concept learned from the Area Model, while preparing students for the Standard Algorithm of Multiplication.

Using the Area Model to Multiply

Students start by creating the Area Model using Base Ten Pieces.

After students have an understanding, they begin drawing the Area Model abstractly.

Using the Standard Algorithm to Multiply

Students use the Standard Algorithm after demonstrating a full understanding of multiplication and now they are not “memorizing a rule” but understanding the rule of “carrying” the “2” and adding it.
How you can help at home…

- Draw pictures and make models of numbers
- Practice addition and subtraction facts
- Find numbers and write them in expanded form
- Make numbers and tell which place value (and/or value) each digit represents
- Place large numbers on a number line