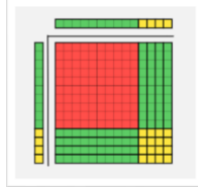# 5th Grade Unit 3: Building Conceptual Understanding of multiplication and division with whole numbers.

Overview:

In this unit, students build on their conceptual understanding of, and strategies for multiplication and division from previous grades and units to multiply and divide multi-digit whole numbers using place value understanding, properties of operations, and the relationship between multiplication and division. Previous experience with area diagrams in fourth grade and in the previous unit will make the partial products diagram more accessible in this unit. Students will use strategies to multiply multi-digit whole numbers and partial quotient algorithms to divide whole numbers up to four-digits by two-digits. Students will also ask and answer statistical questions using the statistical reasoning framework which includes collecting, organizing, and interpreting data.

Learning Targets:

In Unit 3, students will:

- Multiply and divide multi-digit whole numbers to solve real-life, mathematical problems.
- Fluently multiply multi-digit (up to 3-digit by 2-digit) whole numbers to solve real-life problems.
- Fluently divide multi-digit whole numbers (up to 4- digit dividends and 2- digit divisors no greater than 25) to solve real-life problems.
- Write, interpret, and evaluate numerical expressions within real-life problems
- Write, interpret, and evaluate simple numerical expressions involving whole numbers with or without grouping symbols to represent real-life situations.
- Solve problems involving customary measurements, metric measurements, and time and analyze graphical displays of data to answer relevant questions.
- Ask questions and answer them based on gathered information, observations, and appropriate graphical displays to solve problems relevant to everyday life.

Key Vocabulary:

Algorithm	Order of Operations	Partial Product
Distributive Property	Partition Division (or fair sharing)	Partial Quotient
Dividend	Product	Properties of Operations
Divisor	Equation	Expression
Measurement Division (or repeated subtraction)	Quotient	Remainder

Supporting Resources:

http://ctlslearn.cobbk12.org/

https://apps.mathlearningcenter.org/partial-product-finder/

https://gavirtual.instructure.com/courses/34730#modules

Division with two-digit dividends – Study Jams

https://phet.colorado.edu/en/simulations/area-model-multiplication

Partial Products Multiplication – GeoGebra