Math Connections for Parents

Grade 5 Module 2

Multi-Digit Whole Number and Decimal Fraction Operations

Welcome to Fifth Grade Module 2! In Module 2, students will further their understanding of place value in order to multiply multi-digit numbers and decimals. Students will complete the same path of understanding for division. In this module, students will work with mental strategies in order to see if solutions will be reasonable or will make sense. Students will work with multi-digits and decimals in both multiplication and division, and will be expected to apply this knowledge in word problems.

Important Words and Concepts

- Parentheses: ( )
- Brackets: [ ]
- Braces: { }
- Divisor: number by which another number is divided
- Quotient: answer to a division problem
- Remainder: number left over when one integer is divided by another
- Multiplier: quantity that a number is multiplied by
- Product: answer to a multiplication problem
- Multiple: number that can be divided by another number without a remainder
- Exponents: number of times a numeral is to be multiplied repeatedly ($4^3 = 4 \times 4 \times 4$)

Multiplication and Division

Students in this module will be expected to "fluently multiply multi-digit whole numbers using the standard algorithm". After much work with basic facts, students should be ready to multiply and divide with modeling and with a more traditional method of multiplying and dividing. They will be expected to apply this knowledge to word problems as well.

KEY STANDARDS

- Use parentheses, brackets or braces in numerical expressions, and evaluate those expressions (e.g. solve 3 x (5 + 2) as 3 x 7 = 21
- Write simple expressions without evaluating them (e.g. "add 8 and 7, then multiply by 2" is 2 x (8 + 7))
- Understand that a digit in the ones place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
- Explain how the decimal place moves as we multiply by 10 and divide by 10
- Find whole-number quotients of whole numbers with up to four-digit dividends and two digit divisors.
- Add, subtract, multiply and divide decimals to the hundredths.

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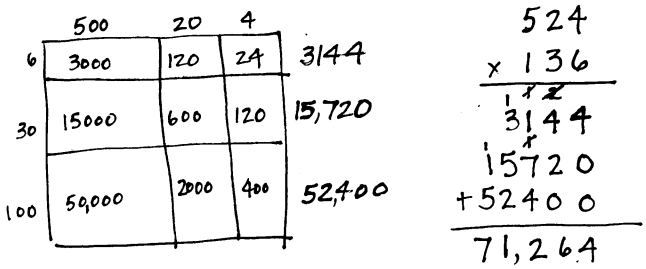
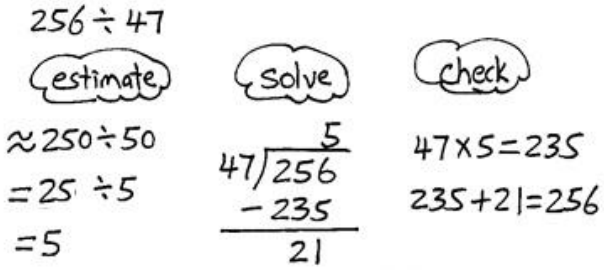
Graphics and Strategies you may see…

Students will be working with multiple ways to solve multiplication problems, eventually leading them to the standard algorithm.



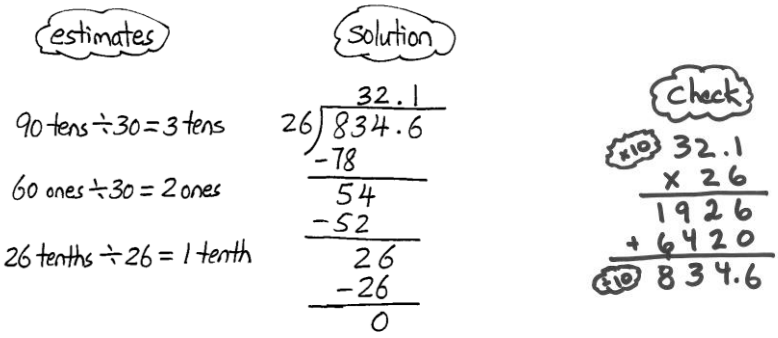
Here a student shows a problem first with an area model and then with the standard algorithm.

In an earlier module, students worked with dividing by a single-digit divisor (e.g. 678 ÷ 5). In this module, students will work with two-digit divisors (e.g. 236 ÷ 39).



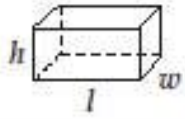
A student here estimates first, solves the problem with the standard algorithm, then checks their work with multiplication.

Students will further their knowledge of multiplying and dividing by working with decimals.



Grade 5 Mathematics Reference Sheet

FORMULAS



Right Rectangular Prism

Volume = lwh
Volume = Bh

CONVERSIONS

1 centimeter = 10 millimeters
1 meter = 100 centimeters = 1,000 millimeters
1 kilometer = 1,000 meters

1 gram = 1,000 milligrams
1 kilogram = 1,000 grams

1 pound = 16 ounces
1 ton = 2,000 pounds

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts

1 liter = 1,000 milliliters
1 kiloliter = 1,000 liters

1 mile = 5,280 feet
1 mile = 1,760 yards