



MATH NEWS



Grade 5, Module 1, Topic E

5th Grade Math

Module 1: Place Value and Decimal Fractions

Math Parent Letter

This document is created to give parents and students a better understanding of the math concepts found in the Eureka Math (© 2013 Common Core, Inc.) that is also posted as the Engage New York material taught in the classroom. Grade 5 Module 1 of Eureka Math (Engage New York) covers place value and decimal fractions. In Topic E students will focus on the multiplication of a decimal fraction by a one-digit whole number.

Topic E: Multiplying Decimals

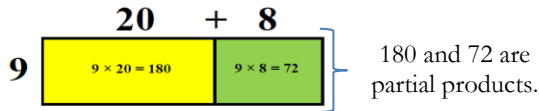
Words to know

- Thousandths/Hundredths/Tenths
- Product
- Factor
- Estimate
- Decimal Fraction
- Partial Product
- Unit Form

Product - The answer when two or more factors are multiplied together.

$$\begin{array}{ccc} 7 & \times & 3 \\ \text{Factor} & & \text{Factor} \\ \hline & & 21 \\ & & \text{Product} \end{array}$$

Area Model – a graphic organizer that organizes the partial products
Example:



Decimal Fraction – a fractional number with a denominator of 10 or a power of 10 (10, 100, 1000); can be written with a decimal point
Examples: 0.46 5.32 0.9 12.008

Unit Form – A way to show how many of each size are in the number. 5.32 = 5 ones 3 tenths 2 hundredths

Estimate - A number close to an exact amount. An estimate tells about how much or about how many.

Objectives of Topic E

- Multiply a decimal fraction by single-digit whole number, relate to a written method through application of the area model and place value understanding, and explain the reasoning used.
- Multiply a decimal fraction by single-digit whole numbers, including using estimation to confirm the placement of the decimal point.

Focus Area– Topic E

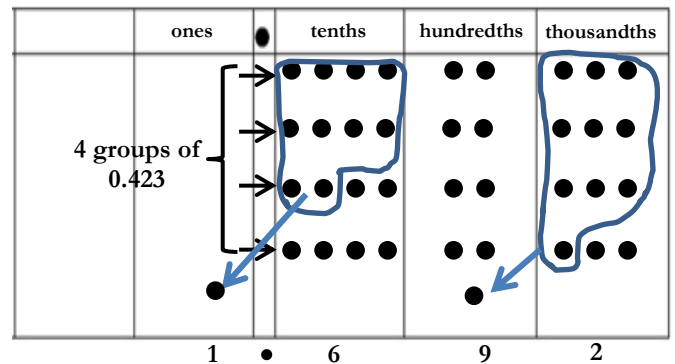
Multiplying Decimals on the Place Value Chart and Area Model

Place value understanding of whole number multiplication using place value charts and area models, help students make a connection between whole number products and products of one-digit whole number and decimal fraction.

Problem: 0.423×4

Using Place Value Chart: Students know that 423 times 4 means 4 groups of 423; therefore 0.423 times 4 means 4 groups of 0.423.

In the place value chart, we represent 0.423 four times since we need 4 groups of this decimal fraction. We will regroup when there are ten or more in one place.



Using Area Model: The unit form of each digit of the decimal fraction is written above the model and the other number or factor is written along the side. Multiply the unit form of each digit along the top by the number on the side. Add each of the partial products to find the product.

$$\begin{array}{r} 4 \text{ tenths} \quad + \quad 2 \text{ hundredths} \quad + \quad 3 \text{ thousandths} \\ \hline 4 \times 4 \text{ tenths} = 16 \text{ tenths} \quad 4 \times 2 \text{ hundredths} = 8 \text{ hundredths} \quad 4 \times 3 \text{ thousandths} = 12 \text{ thousandths} \\ \hline 1.6 \quad + \quad 0.08 \quad + \quad 0.012 \quad = \quad 1.692 \end{array}$$

