

Grade 5

Modeling Multiplication and Division of Decimals

Student Learning Goals

Results show that your student has a clear understanding of the skills shown below as determined by the Mathematics Florida Standards (MAFS).

We will continue to work on the **unchecked** skills at school. To support these skills at home, your child would benefit from practice with the **resources** listed below.

Using a model to Multiply a Whole Number and a Decimal:

Decimal models to show multiplication of a decimal and whole number will reinforce the concept of multiplication being repeated addition. Models give students a way to visualize decimals as a part of a whole. Using models will provide students the foundation needed to understand the standard algorithm.

To model, students may use (click to advance):

- Base 10 Blocks

$$4 \times 0.17$$

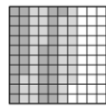
"4 groups of 17 hundredths"



- Base 10 Grids

$$4 \times 0.17$$

"4 groups of 17 hundredths"

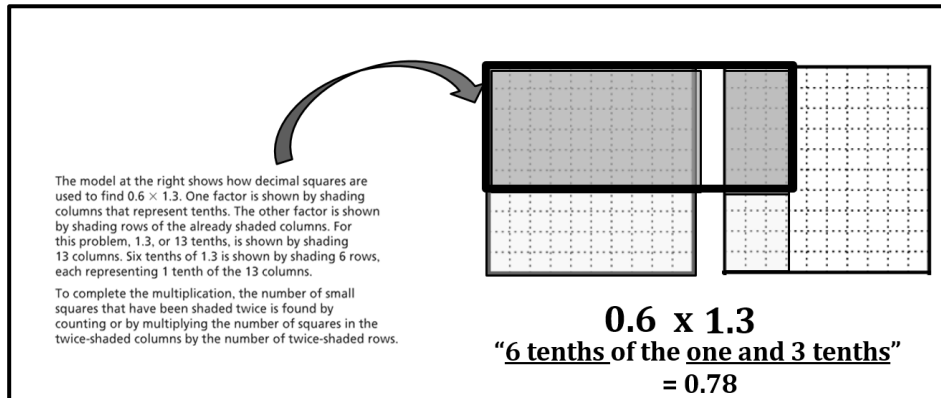


Continue to emphasize place value.

- eLab – Multiplying decimals and whole numbers
<http://tinyurl.com/5g7gjr>

- Real Word Situation:
Tina's cat weighs 2.6 kilograms. Her dog weighs 4 times as much as her cat. How much does her dog weigh in kilograms?

Using a Model to Multiply a Decimal by a Decimal

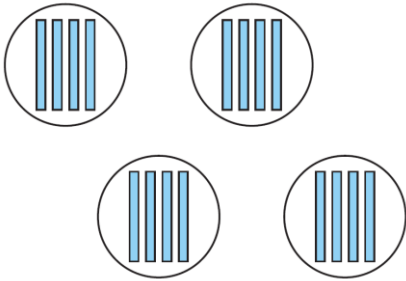


- Real Word Situation:
The distance from the park to the grocery store is 0.9 mile. Scott runs 6 tenths of that distance and walks the rest of the way. How far does Scott run from the park to the grocery store?

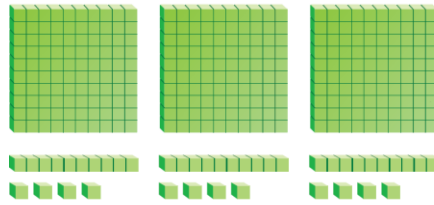
One cup of cooked zucchini has 1.8 grams of protein. How much protein is in 0.4 cup of zucchini?

Using a Model to Divide a Decimal by a Whole Number:

$$1.6 \div 4 = \underline{\hspace{2cm}}$$



$$3.42 \div 3 = \underline{\hspace{2cm}}$$



Models such as those above support understanding of the division process with decimals.

Using a Model to Divide a Decimal by a Decimal:

Base ten blocks or grid paper helps students make sense of decimal division without using an algorithm.

3.6

Regroup to 36 tenths

→

→

Make groups of 3 tenths

→

3.6 ÷ 0.3

Solution:
12 groups of 0.3

- Dividing Decimal Dividends by Whole Numbers (video) - <http://tinyurl.com/hght6eg>
- Divide Decimals by Whole Numbers (video) <http://tinyurl.com/hs2sb7m>
- Real World Situation:
Explain how you can use base-ten blocks or other decimal models to find $3.15 \div 0.3$. Include pictures to support your explanation.

~Laurie spends \$25.92 on gas for her car. She put 12 gallons of gas in her car. How much was the cost of one gallon of gas? Use a model or quick pic to show your explanation.

~Wayne buys 4 pounds of peaches at the grocery store. He pays \$7.16. How much does one pound of peaches cost? Use a model or quick pic to support your explanation.

- eLab – Decimal division <http://tinyurl.com/hhjdxtk>

Decimals Divided by Decimals (video) <http://tinyurl.com/h46bb3v>
- Real World Situation:
Write word problems that involve dividing by a decimal. Include a picture of the solution using a model.
 $1.75 \div 0.35$
 $0.24 \div 0.04$
 $2.0 \div 0.4$