G5-M1-Lesson 13

Note: The use of unit language (e.g., 21 hundredths rather than 0.21) allows students to use knowledge of basic facts to compute easily with decimals.

1. Complete the sentence with the correct number of units, and then complete the equation.

0.21 = 21 hundredths

3 groups of 7 hundredths is 0.21.

I know the basic fact 3 × 7 = 21. This is similar.
3 × 7 hundredths = 21 hundredths

0.21 ÷ 3 = 0.07

Since 21 ÷ 3 = 7, then
21 hundredths ÷ 3 = 7 hundredths

2. Complete the number sentence. Express the quotient in units and then in standard form.

Since the divisor is 4, I'll decompose 8.16 into 8 ones and 16 hundredths.
Both 8 and 16 are multiples of 4.

a. 8.16 ÷ 4 = 8 ones ÷ 4 + 16 hundredths ÷ 4

= 2 ones + 4 hundredths

= 2.04

8 ones ÷ 4 = 2 ones = 2

16 hundredths ÷ 4 = 4 hundredths = 0.04

2 + 0.04 = 2.04

Since the divisor is 6, I'll decompose 1.242 into 12 tenths and 42 thousandths.
Both 12 and 42 are multiples of 6.

b. 1.242 ÷ 6 = (12 *tenths* ÷ 6) + (42 *thousandths* ÷ 6)

= 2 *tenths* + 7 *thousandths*

= 0.207

12 tenths ÷ 6 = 2 tenths = 0.2

42 thousandths ÷ 6 = 7 thousandths = 0.007

3. Find the quotients. Then, use words, numbers, or pictures to describe any relationships you notice between the pair of problems and their quotients.

a. $35 \div 5 =$ 7

I know this basic fact!

b. $3.5 \div 5 =$ 0.7

I can use that basic fact to help me solve this one.
35 tenths ÷ 5 = 7 tenths = 0.7

Both problems are dividing by 5, but the quotient for part (a) is 10 times larger than the quotient for (b). That makes sense because the number we started with in part (a) is also 10 times larger than the number we started with in part (b).

4. Is the quotient below reasonable? Explain your answer.

a. $0.56 \div 7 = 8$

56 hundredths ÷ 7 = 8 hundredths

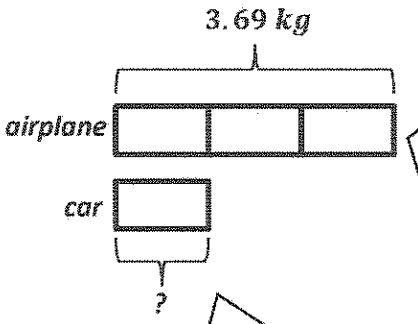
0.56 = 56 hundredths

No, the quotient is not reasonable.

56 ÷ 7 = 8, so 56 hundredths ÷ 7 must be 8 hundredths.

5. A toy airplane weighs 3.69 kg. It weighs 3 times as much as a toy car. What is the weight of the toy car?

I draw 1 tape diagram to show the weight of the airplane.



The airplane weighs 3 times as much as the car, so I partition the tape diagram, into 3 equal units.

The car is equal to the weight of 1 unit.

I can use unit language and basic facts to solve.
3 ones ÷ 3 = 1 one
6 tenths ÷ 3 = 2 tenths = 0.2
9 hundredths ÷ 3 = 3 hundredths = 0.03

3 units = 3.69

1 unit = 3.69 ÷ 3

1 unit = 1.23

The toy car weighs .23 kg.