



Dividing Decimals

Ms. Harrietha-Grade 7 Math

Compatible Numbers

Compatible Numbers: Use numbers that are easy to use mentally.

Ex: $27.94 \div 5 \approx 25 \div 5$ because 25 is a multiple of 5 ≈ 5

OR

$30 \div 5$ because 30 is a multiple of 5 ≈ 6

Practice using Compatible Numbers

a) $4.55 \div 5$

b) $3.63 \div 3$

c) $1.56 \div 4$

d) $9.8 \div 5$

e) $12.31 \div 2$

f) $56.093 \div 7$

g) $73.3 \div 5$

To divide a decimal by a whole number follow these steps:

1) Record the numbers without the decimal point.

2) Estimate: 7.938 is close to 8

1) $8 \div 2$ is 4

The answer will be a little less than 4 because we overestimated.

4) Check by multiplying:

$$3.969 \times 2 = 7.938$$

So the answer is correct.

$$\begin{array}{r} 3969 \\ 2 \overline{) 7938} \\ - 6 \\ \hline 19 \\ - 18 \\ \hline 13 \\ - 12 \\ \hline 18 \\ - 18 \\ \hline 0 \end{array}$$

Practice

1) $3.24 \div 3$

Estimate: _____

Actual:

2) $11.25 \div 5$

Estimate: _____

Actual:

Dividing Decimals Less Than 1 by a Whole Number

Divide: $0.086 \div 5$

► Estimate.

0.086 is close to 0.085.

0.085 is 85 thousandths.

Eighty-five thousandths divided
by 5 is 17 thousandths.

So, $0.086 \div 5$ is about 0.017.

► Calculate.

$$\begin{array}{r} 0.0172 \\ 5 \overline{) 0.0860} \\ \underline{- 5} \\ 36 \\ \underline{- 35} \\ 10 \\ \underline{- 10} \\ 0 \end{array}$$

So, $0.086 \div 5 = 0.0172$

Since 0.0172 is close to the estimate, 0.017, the answer is reasonable.

Adding Zeros

► Divide: $9.784 \div 5$

Estimate first: Write 9.784 as 10.

$$10 \div 5 = 2$$

So, $9.784 \div 5$ is a little less than 2.

$$\begin{array}{r} 1.9568 \\ 5 \overline{) 9.7840} \\ \underline{-5} \\ 47 \\ \underline{-45} \\ 28 \\ \underline{-25} \\ 34 \\ \underline{-30} \\ 40 \\ \underline{-40} \\ 0 \end{array}$$

Sometimes you need to write zeros in the dividend so you can continue to divide until the remainder is 0.

$$\begin{array}{r} 2.568 \\ \underline{-25} \\ 34 \\ \underline{-30} \\ 40 \\ \underline{-40} \\ 0 \end{array}$$

Try These



1. Divide until the remainder is zero.

a)
$$4 \overline{) 6.374}$$

b)
$$2 \overline{) 49.67}$$

c)
$$5 \overline{) 0.473}$$

d)
$$2 \overline{) 29.77}$$

e)
$$5 \overline{) 4.573}$$

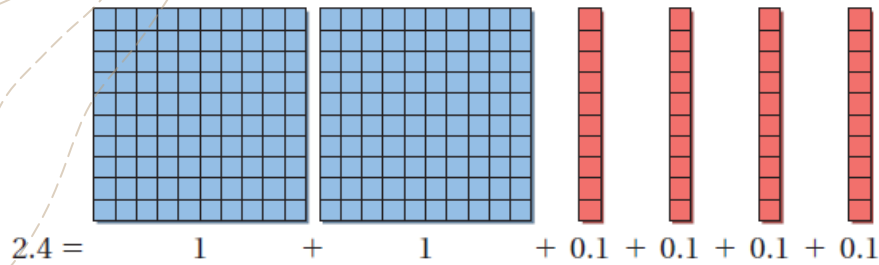
f)
$$8 \overline{) 0.124}$$

$$+ 2.4 \div 0.6$$

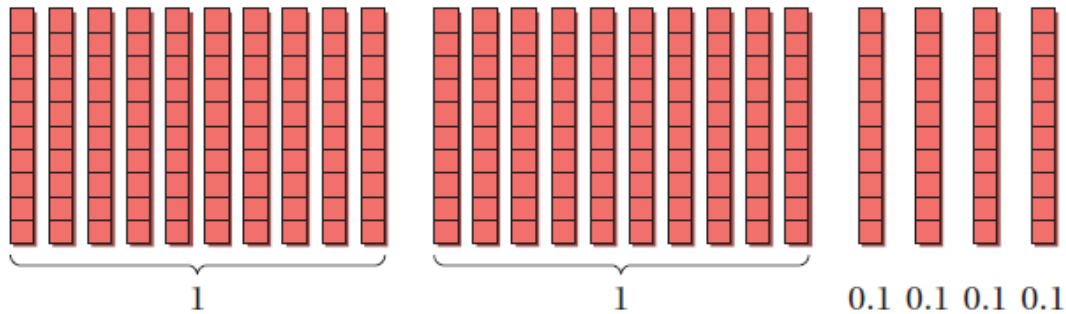
+ think of the division $2.4 \div 0.6$ as the question “How many 0.6’s are

+ in 2.4?” To answer this, divide 2.4 into groups of 0.6 each.

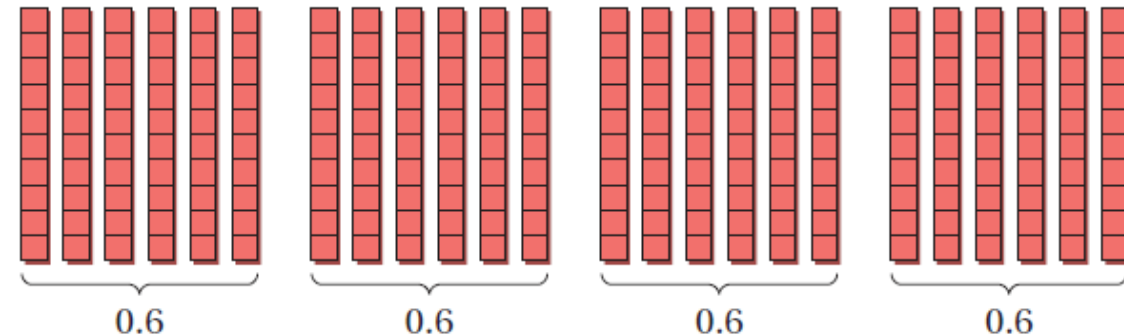
Begin by modeling 2.4.



Replace the ones blocks with tenths blocks. You have a total of 24 tenths blocks.



Group the blocks into groups of 0.6 each.



There are four groups of 0.6. So, $2.4 \div 0.6 = 4$.

+ To divide a decimal by a decimal number follow these steps:

1) Record the numbers without the decimal point.

2) Estimate: $24.3 \div 0.6$

3) $24 \div 1$ is 24

The answer will be a little more than 24 because we overestimated.

4) Divide as you would whole numbers:

Since the estimate was 24 place the decimal after the 0

$$\begin{array}{r} 405 \\ \hline 6 \overline{) 2430} \\ \underline{24} \\ 03 \\ \underline{00} \\ 30 \\ \underline{30} \\ 00 \end{array}$$

Divide until
the quotient
terminates.

Practice

b. $1.6 \div 0.8$

c. $2.8 \div 0.7$

d. $3.2 \div 0.4$

e. $3.6 \div 0.9$