

Name _____

Represent Multiplication with Decimals and Whole Numbers

I Can use a model to multiply a whole number and a decimal.

Florida's B.E.S.T.

- Number Sense & Operations 5.NSO.2.4
- Mathematical Thinking & Reasoning
MTR.1.1, MTR.3.1, MTR.4.1, MTR.5.1,
MTR.6.1, MTR.7.1

Investigate

Materials ■ decimal models ■ color pencils

Giant tortoises move very slowly. They can travel a distance of about 0.17 mile in 1 hour. How far could a giant tortoise move if it travels at this same speed for 4 hours?



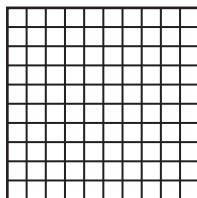
A. Complete the statement to describe the problem.

I need to find how many total miles are in _____ groups
of _____.

- Write an expression to represent the problem. _____

B. Use the decimal model to find the answer.

- What does each small square in the decimal model represent?



C. Shade a group of _____ squares to represent the distance a giant tortoise can move in 1 hour.

D. Use a different color to shade each additional

group of _____ squares until you

have _____ groups of _____ squares.

E. Record the total number of squares shaded. _____ squares

So, the giant tortoise can move _____ mile in 4 hours.



**Math
Talk**

MTR 4.1 Engage in discussions on mathematical thinking.

Describe how the model helps you determine if your answer is reasonable.

Draw Conclusions

1. Explain why you used only one decimal model to show the product.

2. Explain how the product of 4 groups of 0.17 is similar to the product of 4 groups of 17. How is it different?

3. **MTR** Compare the product of 0.17 and 4 with each of the factors. Which number has the greatest value? Explain how this is different than multiplying two whole numbers.

Make Connections

You can draw a quick picture to solve decimal multiplication problems.

Find the product. 3×0.46

- STEP 1** Draw 3 groups of 4 tenths 6 hundredths.
Remember that a square is equal to 1.

- STEP 2** Combine the hundredths and rename.

There are _____ hundredths. I will rename
_____ hundredths as _____.

Cross out the hundredths you renamed.

- STEP 3** Combine the tenths and rename.

There are _____ tenths. I will rename
_____ tenths as _____.

Cross out the tenths you renamed.

- STEP 4** Record the value shown by your completed quick picture.

So, $3 \times 0.46 =$ _____.



MTR
4.1 Engage in discussions on mathematical thinking.

Explain how renaming decimals is like renaming whole numbers.