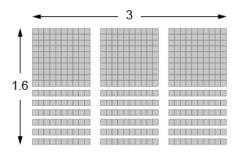# Activity 13 Assessment
Multiplying Decimals by 2-Digit Numbers

Multiplying and Dividing Decimals by 2-Digit Numbers

Models multiplication and division situations concretely and pictorially.	Uses models and other strategies to solve multiplication and division situations.	Uses the standard algorithm to multiply.

Models multiplication and division situations concretely and pictorially.

$$1.6 \times 3 = ?$$

3

1.6

"I used Base Ten Blocks to make an array with length 3 and width 1.6.
I then counted the blocks to get 4.8.

I could also use repeated addition:.
1.6 + 1.6 + 1.6 = 4.8"

Uses models and other strategies to solve multiplication and division situations.

$$4.15 \times 25 = ?$$

$$
\begin{aligned}
4.15 \times 25 &= (4.0 + 0.10 + 0.05) \times (20 + 5) \\
&= (4.0 \times 20) + (0.10 \times 20) + (0.05 \times 20) \\
&\quad + (4.0 \times 5) + (0.10 \times 5) + (0.05 \times 5) \\
&= 80.0 + 2.0 + 1.0 + 20 + 0.5 + 0.25 \\
&= 103.75
\end{aligned}
$$

Uses the standard algorithm to multiply.

$$4.15 \times 25 = ?$$

"First, I multiplied as if there was no decimal.
Next, I counted the number of digits
after the decimal point in each factor.
Then I placed the same number of digits
after the decimal point in the product."

$$
\begin{array}{r}
\overset{\overset{1}{2}}{4}.15 \\
\times \quad 25 \\
\hline
2075 \quad \text{Multiply : } 415 \times 5 \\
+ \; 8300 \quad \text{Multiply : } 415 \times 20 \\
\hline
103.75
\end{array}
$$

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Activity 13 Assessment
Multiplying Decimals by 2-Digit Numbers

Multiplying and Dividing Decimals by 2-Digit Numbers (cont'd)

Decomposes numbers to use partial quotients to divide.	Estimates to determine if answer to multiplication or division problem is reasonable.	Solves multiplication and division problems flexibly using a variety of strategies.
$4.44 \div 12 = ?$	$$\begin{array}{r} 0.37 \\ 12\overline{)4.44} \\ -36 \\ \hline 84 \\ -84 \\ \hline 0 \end{array}$$	The area of a rectangular garden plot is 95.2 m2. The length of the garden is 14 m. What is the width?
$$\begin{array}{r} 12\overline{)444} \\ -360 \\ \hline 84 \\ -84 \\ \hline 0 \end{array}$$ 30 groups of 12 7 groups 12	"$4.44 is about $4 and 12 is about 10. So, $4 ÷ 10 = $0.40 So, the answer is reasonable."	"I divided as I would whole numbers, then used estimation to place the decimal point.
"I used partial quotients to divide as whole numbers, then estimated to place the decimal point. 4.44 is about 4 and 12 is about 10. So, 4 ÷ 10 = 0.40 So, I placed the decimal point so 37 is close to 0.40: 0.37."		$$\begin{array}{r} 6.8 \\ 14\overline{)95.2} \\ -84 \\ \hline 112 \\ -112 \\ \hline 0 \end{array}$$
		95.2 is about 100, and 14 is about 10. 100 ÷ 10 = 10. I placed the decimal point so that 68 is close to 10: 6.8. The width of the garden is 6.8 m."

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