G5-M2-Lesson 11

1. Estimate the product. Solve using the standard algorithm. Use the thought bubbles to show your thinking.

$1.24 \approx 1$
$32 \approx 30$
The estimated product is 30.

$1.24 \times 32 \approx \underline{1} \times \underline{30} = \underline{30}$

The actual product is 39.68.

$1.24 \times 32 = \underline{39.68}$

Think!
$1.24 \times 100 = 124.$

$$\begin{array}{r} 1\ 2\ 4 \\ \times\quad 3\ 2 \\ \hline 2\ 4\ 8 \\ +\ 3\ 7^{x}\ 2\ 0 \\ \hline 3,\ 9\ 6\ 8 \end{array}$$

Think!
3,968 is 100 times too large. The real product is
$3,968 \div 100 = 39.68.$

If I multiply 1.24 times 100, I get 124. Now, I can multiply whole numbers, 124×32.

Since I multiplied the factor 1.24 times 100, then I have to divide the product by 100. The answer is 39.68.

2. Solve using the standard algorithm.

2.46×132

$= 324.72$

$$\begin{array}{r} 2\ 4\ 6 \\ \times\quad 1\ 3\ 2 \\ \hline 4\ 9\ 2 \\ 7\ 3\ 8\ 0 \\ +\ 2\ 4\ 6\ 0\ 0 \\ \hline 3\ 2\ 4\ 7\ 2 \end{array}$$

2.46 times 100 is equal to 246. Now, I can multiply 246 times 132.

I have to remember to divide the product by 100. $32{,}472 \div 100 = 324.72$

3. Use the whole number product and place value reasoning to place the decimal point in the second product. Explain how you know.

If $54 \times 736 = 39{,}744$, then $54 \times 7.36 =$ 397.44.

7.36 is 736 hundredths, so I can just divide 39,744 by 100.

$39{,}744 \div 100 = 397.44$

I can compare the factors in both number sentences. Since $736 \div 100 = 7.36$, then I can divide the product by 100.