Multiply with Multiples of 10, 100, and 1,000

Practice to review… I can use basic facts and mental math to multiply!

<table>
<thead>
<tr>
<th>I can find the product of $2 \times 60$</th>
<th>I know that $2 \times 6 = \underline{\hspace{2cm}}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>I know that $60$ is equivalent to $6 \text{ tens}$</td>
<td>So $2 \times 6 \text{ tens} = \underline{\hspace{2cm}} \text{ tens}$</td>
</tr>
<tr>
<td>so $2 \times 60 = 2 \times 6 \text{ tens}$</td>
<td>$2 \times 60 = \underline{\hspace{2cm}}$</td>
</tr>
</tbody>
</table>

I can also find the product of $2 \times 600$

<table>
<thead>
<tr>
<th>I know that $600$ is equivalent to $6 \text{ hundreds}$</th>
<th>$2 \times 6 \text{ hundreds} = \underline{\hspace{2cm}} \text{ hundreds}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>so $2 \times 600 = 2 \times 6 \text{ hundreds}$</td>
<td>$2 \times 600 = \underline{\hspace{2cm}}$</td>
</tr>
</tbody>
</table>

Practice to remember…

Use basic facts and patterns to find each product.

1. $3 \times 8$
2. $3 \times 80$
3. $3 \times 800$
4. $3 \times 8,000$

5. $4 \times 30$
6. $4 \times 3,000$
7. $4 \times 3$
8. $4 \times 300$

9. $6 \times 40$
10. $6 \times 4$
11. $6 \times 4,000$
12. $6 \times 400$

Solve. Use pictures, numbers, or words to show how you know.

13. At the Paper Shop, Molly bought a large pack of stickers. It had 8 sheets with 40 stickers on each sheet. How many stickers are in the pack? Show how you know.
Remembering
Practice for fluency…

Compare. Choose >, <, or = for each  .

14. 1,500  1,471 + 28
   a. >
   b. <
   c. =

15. 2,457 + 42  2,500
   a. >
   b. <
   c. =

Use the rule. Find each missing value.

<table>
<thead>
<tr>
<th>Rule: ( e = p \div 3 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
</tr>
<tr>
<td>( p )</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>6</td>
</tr>
</tbody>
</table>

Write a rule for the function table.

<table>
<thead>
<tr>
<th>Rule: __________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
</tr>
<tr>
<td>( m )</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>11</td>
</tr>
<tr>
<td>18</td>
</tr>
</tbody>
</table>

Use the information from the table to answer the questions. Use pictures, numbers, or words to show how you know.

20. If \( p = 6 \), what is the cost of the red shirt? Show how you know.

<table>
<thead>
<tr>
<th>Clothing Price List</th>
</tr>
</thead>
<tbody>
<tr>
<td>red shirt</td>
</tr>
<tr>
<td>blue shirt</td>
</tr>
<tr>
<td>jeans</td>
</tr>
<tr>
<td>sweater</td>
</tr>
<tr>
<td>socks</td>
</tr>
</tbody>
</table>

21. Without knowing the value of \( p \), tell which will cost more, the sweater or the blue shirt? Show how you know.
Estimate Products

Practice to review… I can use basic facts and mental math to estimate!

I can estimate the product of \(5 \times 478\)

\[5 \times ____ = ____\]

I know that 478 is about ______

so \(5 \times 478\) is about \(5 \times ____\)

\[5 \times 478\) is about ______

Practice to remember…
Estimate each product. Write the basic fact you use.

1. \(59 \times 2\)
   - basic fact: __________
   - estimate: __________

2. \(4 \times 62\)
   - basic fact: __________
   - estimate: __________

3. \(247 \times 6\)
   - basic fact: __________
   - estimate: __________

4. \(619 \times 6\)
   - basic fact: __________
   - estimate: __________

5. \(4 \times 285\)
   - basic fact: __________
   - estimate: __________

6. \(8 \times \$78.45\)
   - basic fact: __________
   - estimate: __________

7. \(3,081 \times 3\)
   - basic fact: __________
   - estimate: __________

8. \(4,099 \times 5\)
   - basic fact: __________
   - estimate: __________
Remembering
Practice for fluency…

9. What value of \( m \)? \( m + 15 = 21 + 59 \)
   a. \( m = 65 \)
   b. \( m = 80 \)
   c. \( m = 95 \)

10. What is true when \( r = 4 \)?
    a. \( 9 - r = r + 1 \)
    b. \( 9 - r > r + 1 \)
    c. \( 9 - r < r + 1 \)

Use this number: 337,445

11. Write the place of the underlined digit.

12. Write the value of the underlined digit.

Use this number: 827,403,526

13. Write the place of the underlined digit.

14. Write the value of the underlined digit.

Solve. Use pictures, numbers, or words to show how you know.

15. Find the missing number in the subtraction problem. Show how you know.

\[
\begin{align*}
15,412 \\
- & \phantom{15,412} \\
\phantom{15,412} & \phantom{15,412} \\
\hline
1,525
\end{align*}
\]

16. The library has 12,452 nonfiction books and 25,788 fiction books. How many fiction and nonfiction books are in the library? Show how you know.
Model Multiplication by One-Digit Numbers

Practice to review… I can use base ten blocks or drawings to model multiplication!

In 3rd grade, I learned that **The Distributive Property of Multiplication** over Addition says that multiplying a sum by a number is the same as multiplying each addend by that number and then adding the partial products.

I can use the **The Distributive Property of Multiplication** to find the product of \( 3 \times 16 \).

**Step 1:** Model 3 groups of 16.

- Place 3 groups of 16 base ten blocks.

**Step 2:** Multiply. Use basic facts and mental math to find partial products for the tens and ones.

\[
3 \times 16 = (3 \times 10) + (3 \times 6)
\]

**Step 3:** Add the partial products together. You may need to combine ones to make new tens.

\[
3 \times 16 = ______ + ______
\]

\[
3 \times 16 = ______
\]

Practice to remember…

Tell what multiplication sentence is shown by the base-ten models. Then find the product.

1. [Base ten blocks]

2. [Base ten blocks]

Find each product. Draw a math sketch to show your thinking.

3. \( 2 \times 26 = ______ \)

4. \( 3 \times 23 = ______ \)

5. \( 5 \times 13 = ______ \)
Remembering
Practice for fluency…

Simplify.
6. \(12 \div 2 \times 2 - 1\)
   a. 2
   b. 4
   c. 6
   d. 11
7. \(14 \div (2 + 5) \times 2\)
   a. 1
   b. 4
   c. 17
   d. 22

Estimate.
8. \(373 + 227\)
9. \(3,458 + 2,683\)
10. \(708 - 569\)
11. \(8,792 - 3,934\)

Solve. Use pictures, numbers, or words to show how you know.

12. Nia has 521 stamps in her collection. Frida has 498 stamps in her collection. How many more stamps does Frida need in order to have more stamps than Nia? Show how you know.

13. Sarah lives between Herbie Town and Husker Town.

   The map shows the distance to each town from Sarah’s home. How far is it from Herbie Town to Husker Town if you travel on the roads past Sarah’s home? Show how you know.
Multiply Two-Digit by One-Digit Numbers

Practice to review… I can use the Distributive Property of Multiplication!

I can use different strategies to find the product of $3 \times 34$.

<table>
<thead>
<tr>
<th>Expanded Method</th>
<th>Show All Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>$3 \times 34 = (3 \times \Box) + (3 \times \Box)$</td>
<td>$34$</td>
</tr>
<tr>
<td>$3 \times 34 = \Box + \Box$</td>
<td>$\times 3$</td>
</tr>
<tr>
<td>$3 \times 34 = \Box$</td>
<td>$\leftarrow 3 \times 30$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regrouping</th>
</tr>
</thead>
<tbody>
<tr>
<td>$34 \times 3$</td>
</tr>
</tbody>
</table>

Practice to remember…

Estimate. Then multiply. Show your thinking.

1. $7 \times 23$  
   estimate: __________  
   product: __________

2. $48 \times 2$  
   estimate: __________  
   product: __________
Practice to remember, continued…
Estimate. Then multiply. Show your thinking.

3. 44 \times 3 \quad \text{estimate:} \quad \quad \quad \text{product:} \\
4. 54 \times 2 \quad \text{estimate:} \quad \quad \quad \text{product:} \\

Read the Math Story and answer the question.
Choose a strategy to show your thinking in the space provided.

5. Beth plans to read 28 pages in her book each day. How many pages will she read in one week? Show how you know.

Remembering
Practice for fluency…

6. I am a two-digit number. My tens digit is 3 more than my ones digit. I am an even number. What number am I?
   a. 174 
   b. 85 
   c. 52 
   d. 32 

7. I am a three-digit number. All my digits are odd numbers. My tens digit is the greatest of the three digits. My ones digit is 2 more than my hundreds digit. What number am I?
   a. 24 
   b. 385 
   c. 153 
   d. 513
Multiply Three-Digit by One-Digit Numbers

Practice to review… I can use The Distributive Property of Multiplication!

I can use different strategies to find the product of \( 3 \times 215 \).

### Expanded Method

\[
3 \times 215 = (3 \times 200) + (3 \times 10) + (3 \times 5)
\]

### Regrouping

\[
215 \\
\times 3
\]

### Show All Products

\[
215 \\
\times 3
\]

Practice to remember…

Find each product. Show your thinking.

1. \( 6 \times 247 \)  
   estimate: \( \underline{\phantom{000}} \)  
   product: \( \underline{\phantom{000}} \)

2. \( 818 \times 3 \)  
   estimate: \( \underline{\phantom{000}} \)  
   product: \( \underline{\phantom{000}} \)
Practice to remember, continued...
Estimate. Then multiply. Show your thinking.

3. \(426 \times 4\) estimate: \(\underline{\ \ }\) product: \(\underline{\ \ }\)

4. \(2.73 \times 5\) estimate: \(\underline{\ \ }\) product: \(\underline{\ \ }\)

Remembering
Practice for fluency...

Use the rule. Find each missing value.

<table>
<thead>
<tr>
<th>Rule: (4r = w)</th>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(r)</td>
<td>(w)</td>
</tr>
<tr>
<td>5.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>4</td>
<td>60</td>
</tr>
</tbody>
</table>

Write a rule for the function table.

8. Rule: 

<table>
<thead>
<tr>
<th>Rule:</th>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(t)</td>
<td>(s)</td>
</tr>
<tr>
<td>5.</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>6.</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>7.</td>
<td>45</td>
<td>15</td>
</tr>
</tbody>
</table>

Solve. Use pictures, numbers, or words to show how you know.

9. During the summer, the population of Spring Lake is 30,155. During the winter months, the population drops to 13,876. How many people move away from Spring Lake during the winter months? Show how you know.
Multiply Three-Digit by One-Digit Numbers

Practice to review… I can use different strategies to multiply!

I can use multiplication strategies to solve problems with words.

Maria and her friends are selling popcorn at the pep rally. They have 9 packages of popcorn boxes. There are 108 popcorn boxes in each package. How many popcorn boxes do they have?

UNDERSTAND This story is about ____________________________________________________________.

PLAN I know for sure that Maria and her friends have ________ packages of popcorn boxes.

I also know that there are ________ popcorn boxes in each package.

Think about the story. Do we need to combine or separate something to solve the problem?

We need to _______________ all the popcorn boxes.

What operations can we use to combine the packages of popcorn boxes?

We can _________________________ or _________________________!

SOLVE Choose a strategy.

Combine ______ groups of ______. →

How many boxes in all? ______

There are ________ popcorn boxes.

LOOK BACK Let’s check… Write an equation to show how you counted the popcorn boxes.

Estimate. Does your first answer make sense?

Practice to remember…

Solve. Use pictures, numbers, or words to show how you know.

1. Maria bought 6 jars of glitter to decorate the banner. If each jar cost $2.19, how much did Maria spend on the glitter?
Practice to remember, continued…
Solve. Use pictures, numbers, or words to show how you know.

2. The diagram shows the seating chart for the pep rally. Each section seats 285 people. If all the seats are filled, how many people will be at the pep rally?

Find each product. Show your thinking.

3. \(422 \times 2\) estimate: \____________\ product: \____________\n
4. \$5.71 \times 6\) estimate: \____________\ product: \____________\n
Remembering
Practice for fluency…

5. Which expression has the greatest value?
   a. \(18 \div 6\)
   b. \(6 \times 6\)
   c. \(35 \div 5\)
   d. \(4 \times 8\)

6. 1 thousand = ____ tens
   a. 1
   b. 10
   c. 100
   d. 1,000