Multiplying by 3-digit numbers

You can follow the steps below to multiply 3-digit numbers. Let's try it with 216 × 354.

First, write the problem. Line up the numbers.

$$\begin{array}{r} 216 \\ \times\ 354 \\ \hline \end{array}$$

Then, multiply the top number by the ones digit of the bottom number. In this example, multiply 216 × 4.

$$\begin{array}{r} {}^{2}216 \\ \times\ 354 \\ \hline \mathbf{4} \end{array}$$

6 × **4** = **24**

Regroup 24 into 2 tens and 4 ones.

$$\begin{array}{r} {}^{2}216 \\ \times\ 354 \\ \hline \mathbf{64} \end{array}$$

1 × **4** = **4**

Add the 2 tens you regrouped.

4 + **2** = **6**

$$\begin{array}{r} 216 \\ \times\ 354 \\ \hline \mathbf{864} \end{array}$$

2 × **4** = **8**

Next, multiply the top number by the tens digit of the bottom number. In this example, multiply 216 × 5.

$$\begin{array}{r} {}^{3}216 \\ \times\ 354 \\ \hline 864 \\ \mathbf{00} \end{array}$$

Because the 5 represents tens, the numbers will start in the tens column. Place a **0** in the ones column.

6 × **5** = **30**

Regroup 30 tens into 3 hundreds and 0 tens.

1 × **5** = **5**

$$\begin{array}{r} {}^{3}216 \\ \times\ 354 \\ \hline 864 \\ \mathbf{800} \end{array}$$

Add the 3 hundreds you regrouped.

5 + **3** = **8**

```
  216
× 354
  864
10800
```

2 × **5** = **10**

Then, multiply the top number by the hundreds digit of the bottom number. In this example, multiply 216 × 3.

```
   1
  216
× 354
  864
10800
  800
```

Because the 3 represents hundreds, the numbers will start in the hundreds column. Place a **0** in the tens column and the ones column.

6 × **3** = **18**

Regroup 18 hundreds into 1 thousand and 8 hundreds.

```
   1
  216
× 354
  864
10800
 4800
```

1 × **3** = **3**

Add the 1 thousand you regrouped.

3 + **1** = **4**

```
  216
× 354
  864
10800
64800
```

2 × **3** = **6**

Last, add the products. Remember to regroup if needed.

```
  216
× 354
  864
10800
+64800
 76464
```

So, 216 × 354 = 76,464!

Go to IXL to try some practice problems!

Multiply:

$$\begin{array}{r} 7{,}524 \\ \times \quad 312 \\ \hline \square \end{array}$$

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Multiplying by 1-digit numbers

Multiplying by 2-digit numbers