

Multiplication with Larger Numbers

(continued)

Now we take a look at multiplying 2 digit x 2 digit numbers. Again, we will start off with the partial product strategy and move into the standard algorithm.

The multiplication strategy we will practice first is the partial product strategy which is very helpful in easing students into the standard algorithm for multiplication (what we grew up with). The strategy does take a little bit longer, but it helps students understand the importance of place value as well as why we are completing certain steps when we get to the standard algorithm. Breaking the problem apart also allows students to solve simpler problems to find the final product.

With the standard algorithm, when multiplying by our second digit, we just slide the second product over. We were not told why. Students need to understand that the reason we slide over for our second product is because we are finished multiplying by our ones digit. As a result, we have no ones (0) and so our second product begins in the ten's place. Until students are more comfortable with this process, we **WILL** place a 0 in the one's place to serve as a place holder (**see the red 0 in the standard algorithm example**). This will help to ensure that students are placing their product's digits in the right places. After practicing both strategies, students should choose the strategy that works best for them. **Knowing our multiplication facts will also make a HUGE difference.**

Here is an example of what the partial product strategy would look like for multiplying a 2 digit number by a 1 digit number:

$\begin{array}{r} 26 \\ \times 49 \\ \hline 234 \\ +1040 \\ \hline 1,274 \end{array}$	$20 + 6$ <table border="1" style="margin: 10px auto;"> <tr> <td style="padding: 5px;">40</td> <td style="padding: 5px; text-align: center;">800</td> <td style="padding: 5px; text-align: center;">240</td> </tr> <tr> <td style="padding: 5px;">+</td> <td colspan="2"></td> </tr> <tr> <td style="padding: 5px;">9</td> <td style="padding: 5px; text-align: center;">180</td> <td style="padding: 5px; text-align: center;">54</td> </tr> </table>	40	800	240	+			9	180	54	$\begin{array}{r} 800 \\ 240 \\ 180 \\ + 54 \\ \hline 1274 \end{array}$	$\begin{array}{r} 26 \\ \times 49 \\ \hline 54 \quad 9 \times 6 \\ 180 \quad 9 \times 20 \\ 240 \quad 40 \times 6 \\ +800 \quad 40 \times 20 \\ \hline 1274 \end{array}$
40	800	240										
+												
9	180	54										
Standard	Partial Products (2 versions)											

Please continue to review rounding, addition/subtraction with/without regrouping, factors and multiples with your child.

MATH FACTS: Students will now be quizzed on a differentiated level based on their mastery of multiplication facts. This means that students will not all be taking the same quiz. Please look at your child's quiz, which will now be going home on Fridays to allow for more study time. There should be a note that says what they will be tested on the next week. The quiz order will be x2 (double), x4 (double again), x5, x10, x11, squares (doubles for multiplication, 4x4), review of the previous facts, x3, x9, x12, x6 & x8 combined, and lastly x7).