

Hello Parents and Guardians!

We have begun focusing on multiplying larger numbers, but next week we will begin multiplying 2 digit by 2 digit problems (i.e. 23×45).

As we begin to learn how to multiply larger numbers we will be focusing on strategies that work around place value as opposed to using the standard algorithm with no understanding of the reason why it works.

In 5th grade, your child will use the place value based strategies learned in 4th grade and connect them to the standard algorithm.

I would like to break down our multiplication strategies for you so that you can help your child at home using the strategies we are practicing in school.

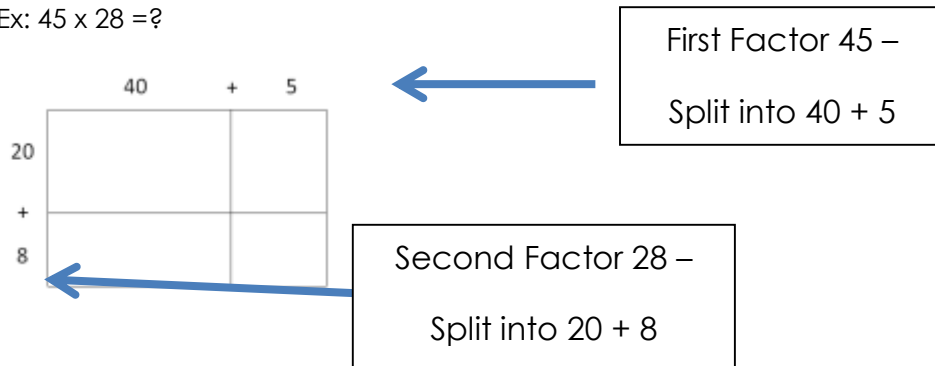
(Strategy 1) – Area Models – Using 45×28



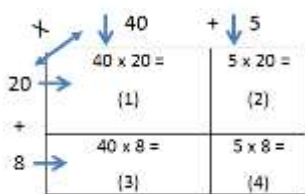
Step 1 – Draw your area model

Step 2 – Split up your factors in your problem into expanded form.

Ex: $45 \times 28 = ?$

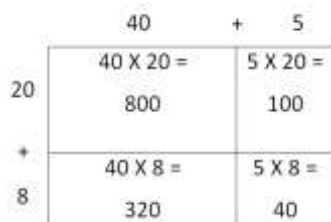


Step 3 – Then multiply each individual factor, in the two different numbers by one another. Ex: $45 \times 28 = ?$



1. $40 \times 20 =$
2. $5 \times 20 =$
3. $40 \times 8 =$
4. $5 \times 8 =$

Step 4 – Now you need to add all of the individual products in your area model.



1. 800
2. 100
3. 320
4. $\begin{array}{r} + \quad 40 \\ \hline 1,260 \end{array}$

So we now know the product of $45 \times 28 = 1,260$.

(Strategy 2) – Partial Products using 45 x 28

$$45 \longrightarrow 40 + 5$$

$$28 \longrightarrow 20 + 8$$

Step 1 Break each number into expanded form.

Step 2 – Take the first number, 45, and write each part of it twice, starting with your tens and then move to the ones.

$$40 \times$$

$$40 \times$$

$$5 \times$$

$$5 \times$$

Step 3 – Split up your second number, 28, so that each part of 28 is matched with part of 45.

$$40 \times 20 =$$

$$40 \times 8 =$$

$$5 \times 20 =$$

$$5 \times 8 =$$

Step 4 – Solve each multiplication equation.

$$40 \times 20 = 800$$

$$40 \times 8 = 320$$

$$5 \times 20 = 100$$

$$5 \times 8 = 40$$

Step 5 – Add up all of your sums from your multiplication equations.

$$\begin{array}{r} 40 \times 20 = 800 \\ 40 \times 8 = 320 \\ 5 \times 20 = 100 \\ 5 \times 8 = 40 \\ \hline 1,260 \end{array}$$

So we now know the product of 45 x 28 = 1,260.