Multiply Large Numbers using the **“Partial Products” Strategy**

Decompose larger numbers to solve multiplication problems quicker and more accurately.

Step 1: Use Place Value to decompose the factors, (like we decomposed using the Area Model strategy).

Step 2: Write your problem vertically.

Step 3: Starting with the digit in the ONES Place on the BOTTOM RIGHT, multiply it by the digit that is directly above it, (also in the Ones Place).

Step 3: Next, multiply the digit in the ONES Place on the BOTTOM RIGHT with the digit that is in the TENS Place above.

Step 4: Multiply the digit in the bottom TENS Place with the digit in the TOP Ones Place.

Step 5: Multiply the digit in the bottom TENS Place with the digit in the TOP Tens Place.

Step 6: Add the **partial** **products** to find our **final** **product**.

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| Example #1: 13 x 12 =  10 + 3 10 + 2 | Step 1: Decompose Using Place Value |
| 13 x 12 = 10 + 3  x 10 + 2 | Step 2: Write your problem vertically. |
| 13 x 12 = 10 + 3  x 10 + 2 2 x 3 = 6  2 x 10 = 20  10 x 3 = 30  + 10 x 10 = 100  13 x 12 = 156  wpid-20140504_115023[1]  HA! The arrows we drew in our Multiplication Steps create a shape that looks like a bow tie! | Steps 3-6:  Start with the digit in the ONES Place on the BOTTOM RIGHT. Multiply it by the digit that is directly above it.  Multiply the digit in the ONES Place on the BOTTOM RIGHT with the digit that is in the TENS Place above.  Multiply the digit in the bottom TENS Place with the digit in the TOP Ones Place.  Multiply the digit in the bottom TENS Place with the digit in the TOP Tens Place.  Step 7: Add the **PARTial Products** to find our **Final Product.** |