Framework for Learning: Multiply Two 2-digit Numbers by Partial Products

Leader's Name: …….

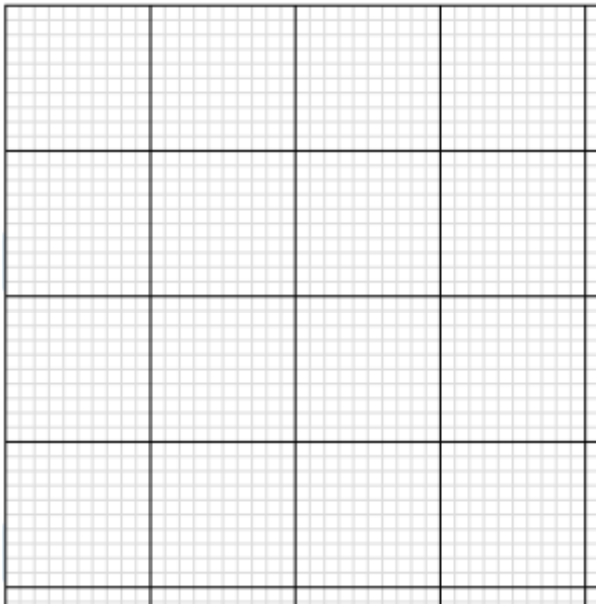
Co-Leader's Name: …….. **Instructor's Initials: …….**

Getting Started:

We want to multiply 24 X 37.

This means that we want the sum of _____ groups of 37.
We want to find how many small squares fill up a large rectangle.
This means that we want to find the _____ of the rectangle with dimensions _____ by _____.

Build the rectangle on your desk using base ten blocks. First use as many hundreds blocks as possible.
Draw the rectangle in the grid below using base ten blocks. Use as many hundreds blocks as possible.
Color code your drawing to match the base ten blocks used.



Continue to **build** the rectangle on your desk.
..Add as many tens blocks as possible.
..Then add as many ones blocks as possible.

Continue to **draw** the rectangle on this grid.
..Color in as many tens blocks as possible.
..Then complete the rectangle with ones blocks.

On the rectangle on your desk:
..draw 2 imaginary lines to divide the rectangle into 4 parts.

On the rectangle on the grid:
..draw 2 lines to divide the rectangle into 4 parts.

Working In It:

Log into UMath X

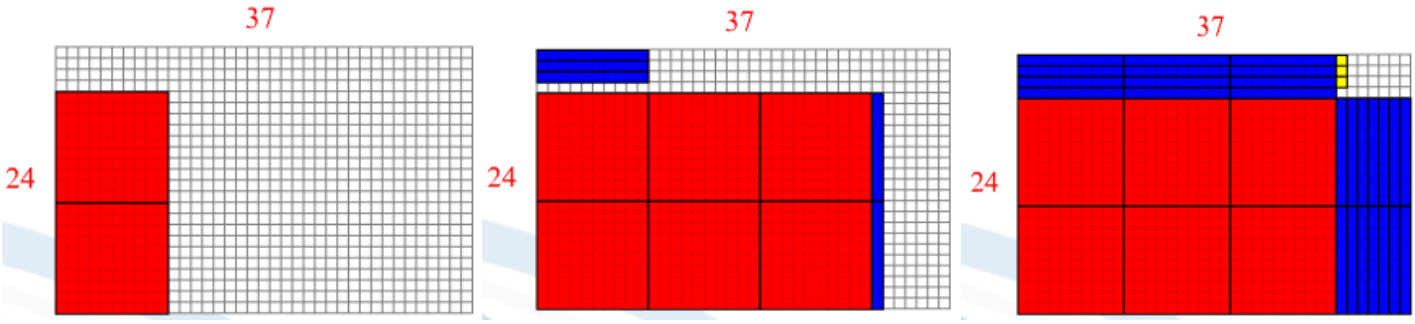
From the menu on the left:

Hover over the Strand: **Whole Numbers and Integers**
Hover over Section 3: **Multiplication and Division of Whole Numbers**
Hover over the Lesson: **Multiply by a Two Digit Multiplier**
Hover over the Sub Lesson: **Partial Products – Area**
Select and work through the Sub Sub Lesson: **Example 1 – With Blocks**

First, on the computer, drag as many **Hundreds blocks** as possible onto the rectangle.
Now, on the computer, drag as many **Tens blocks** as possible onto the rectangle.
Now, on the computer, drag as many **Ones blocks** as possible onto the rectangle.

On the computer screen the area of the rectangle is cut into _____ parts.

On both the rectangle of blocks on your desk and on the rectangle on the grid, check that progression of steps match the steps on the computer shown below.



Part 1 area = ___ ones by ___ ones

= _____ones

Part 2 area = ____ ones by ____tens

= ____ tens

= ____ ones

Part 3 area = ____ones by ____ tens

= ____ ones

Part 4 area = ____ tens by ____ tens

= ____ hundreds

= ____ ones

Then 24 X 37 = sum of all 4 areas = ___ + ___ + ___ + ___ =___

Reflect And Connect:

Hover over the Strand: **Whole Numbers and Integers**
Hover over Section 3: **Multiplication and Division of Whole Numbers**
Hover over the Lesson: **Multiply by a Two Digit Multiplier**
Select and work through the Sub Lesson: **The Distributive Method: Example 1**

Talk to your partner to clearly explain and show the graphics which lead to your understanding when multiplying 2 digit by 2 digit numbers.

Is there something that you would change to help one to **understand** the concept better?

Write a short sentence below about what you feel is the **main idea** in the work that you have done.

In your notebook, multiply **35 x 27** using the **Partial Products Method** and the **Distributive Method.**

Build It. Draw It. Talk It. Write It. Now you OWN It!