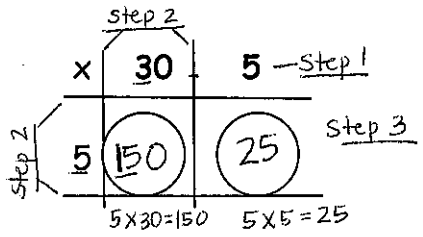
Area Model for Multi-digit Multiplication

The area model for multi-digit multiplication supports mental math. It is a method that is used for multiplying numbers that are 2 digit and larger. The model uses the students' understanding of place value concepts. Below are examples of solving multiplication problems using the area model. There is also a video that demonstrates the area model on the school website.

Steps:

1. Write multi-digit numbers in expanded form (35 = 30 + 5) (horizontal or vertical)
2. Draw lines for the column(s) and row(s).
3. Multiply moving from left to right. Write the product and circle it.
4. Group together the answers by each place value. (hundreds, tens, ones, etc.) This is done mentally.
5. Add together to get the product.

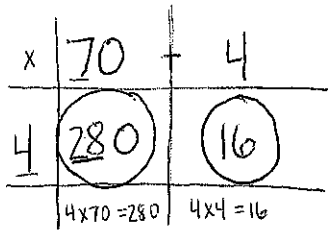
Problem: 35 x 5 = 175



Step 4 – 100 + 70 + 5 = 175 – Step 5

50 20

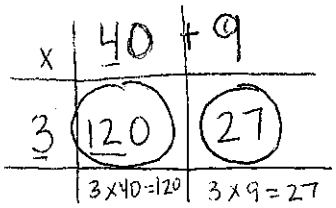
Problem: 74 x 4 = 296



200 + 90 + 6 = 296

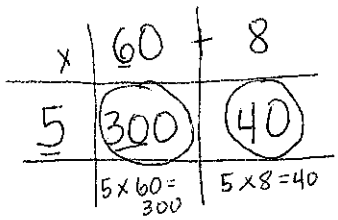
80 10

Problem: 49 x 3 = 147



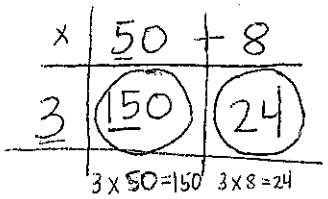
100 + 40 + 7 = 147

Problem: 68 x 5 = 340



300 + 40 = 340

Problem: 58 x 3 = 174



100 + 70 + 4 = 174